429

Virginia Medical Monthly

Official Publication of the Medical Society of Virginia

Vol. 64, No. 8. WHOLE No. 1025. RICHMOND, VA., NOVEMBER, 1937 $2.00 A YEAR 25 CENTS A COPY

THE FUNCTIONS OF THE STATE SOCIETY.*

J. Morrison Hutcheson, M. D., F. A. C. P.,
President, Medical Society of Virginia.
Richmond, Virginia.

The privilege of serving as your president through the past year has brought with it more than the usual opportunity for contact with medical men in various divisions of practice throughout the State. It has also furnished repeated occasions that stimulate reflection upon the status of medicine today and particularly upon the role of the State Society in the general scheme of things. In this day of multiplicity of organizations for the promotion of every manner of cause, it is not surprising that some confusion exists as to the particular object each one seeks to advance. Nor is it remarkable that in some quarters an attitude of satiety toward all organizations is manifested or that, by implication at least, the motives of those who seek to promote such movements are brought into question.

Broadly speaking, I am convinced that the importance of the Medical Society of Virginia to the physicians and to the citizens of Virginia should steadily increase; that the enlarging scope of its essential activities means real progress; and that so long as our State remains a political entity there are obligations to the public good that can be properly discharged by no other agency. It is with the idea of emphasizing certain functions of this Society that the following remarks have been formulated.

Our constitution states that "The purposes of this Society are to promote the science and art of medicine, the protection of public health and the betterment of the medical profession." Undoubtedly this declaration is sufficiently broad to include almost any enterprise upon which we might embark; yet it is only by inference, from our geographical limits, that our objectives are distinguishable from those of other societies of physicians in this State and beyond. Nevertheless, I am persuaded that, while we are obligated to the general cause of medicine and the improvement of the qualifications of our members, the peculiar opportunity of this organization is that of furnishing competent leadership in the growing endeavors of our State to protect the health of its people.

I take it that the promotion of the science and art of medicine means supporting the advance of medical knowledge and the dissemination of this knowledge among our members. Our formal endeavors along this line at present consist of the Annual Session, the Journal, and the Society's program for post-graduate instruction. Of the first two I shall have little to say. Realizing the impossibility of arranging a program that would be beyond criticism, and being familiar with the work of our capable and earnest committee, I am satisfied that for a congress of physicians of varying interests the best possible meeting has been provided. Our publication, the Virginia Medical Monthly, has more than kept pace with our progress in other lines. Its scientific contributions are, in the main, excellent, while its editorials and special articles furnish a discerning and temperate review of contemporary medical thought in this State and elsewhere. No member of this Society is more deserving of our approbation than our gifted and efficient editor, who is also chairman of our program committee.

Some nine years ago, under the leadership of one of our distinguished ex-presidents, Dr. J. W. Preston, a plan for post-graduate instruction was adopted with the avowed purpose of bringing the advances in medical knowledge within easy reach of the practitioners of the State. Clinics have been held at our medical schools and brief courses of instruction have been provided for groups of doctors who are less

*President's address before the sixty-eighth annual meeting of the Medical Society of Virginia, Roanoke, Va., October 12-14, 1937.

XUM

accessible. In some respects the plan, though theoretically attractive, has been disappointing. This has been due, in my opinion, partly to lack of funds, necessitating the limitation of courses offered, and partly to lack of that compelling interest on the part of doctors themselves which would lead them to make the necessary sacrifices in order to attend the courses. It is my hope that some means may be evolved to broaden the scope of this activity, which at present receives the greater part of its financial support from Federal funds, designated for special fields, and awarded through the State Health Department. There is no assurance that these funds will be continued or that, if continued, they can still be used for post-graduate instruction of physicians. It would seem necessary, therefore, to revert to the idea that was emphasized when this department was founded—that of securing instructors from our State-supported medical schools. Thus, with a species of extension courses in various sections of the State, given by our teaching institutions, the subjects covered could be diversified and, at the same time, whatever Federal funds are available could be utilized. Certainly, it would seem that if a group of earnest physicians, remote from medical centers, requests a comprehensive course in any branch of medicine, this Society should endeavor to supply it at little or no cost.

Opportunity for maintaining and improving qualifications to practice medicine comes largely through the functions of medical societies and when we fail to provide this opportunity to the limit of our capacity we fall short of one of our most important objectives. That this work is a proper function of the State Society seems clear for several reasons. Virginia was a pioneer in providing post-graduate instruction for its members and her example has been followed with marked success in a number of other States. The work cannot be left to local societies for the obvious reason that no group is stronger than its individual members, which means that help would not be afforded where it is most needed. Moreover, for the present at least, largely through the courtesy of the State Health Commissioner, available Federal funds are dispensed through the State Society.

MEDICAL LEGISLATION. At the annual meeting of the Society in 1897 one of its most distinguished presidents, Dr. George Ben Johnston, chose as the theme of his address: "The Value to the Public of State Medical Societies." Pointing out that practically all health legislation then in existence had come about through the efforts of State Societies, usually against the strenuous opposition of an uninformed public, he urged a closer relationship between this body and the State government. In his closing paragraph are these words: "Let our lawmakers realize that we alone are competent to choose those who are to execute the function of licensers of practitioners and health officers. We know the fittest men for these high duties; let us be given the selection of them." It might naturally be expected that this body should exercise a strong influence upon all public undertakings affecting the care of the sick and the prevention of disease. Its membership includes not only the large majority of practicing physicians of the State but also outstanding authorities in their several specialties, whose counsel is respected throughout the nation. Their interest in matters of health is unquestioned and their willingness to serve the State has been attested time and time again. But when our governing bodies meet to formulate laws governing the conduct of physicians themselves and the care of their patients, who must be entrusted to the State, rarely if ever is this Society asked for advice or even for suggestions. On the contrary, many physicians, who have represented the Society before our legislative bodies, have gotten the impression not only that no advice is desired but that attempts on the part of the Society to influence medical legislation are resented as impertinent and meddlesome. This state of affairs should not exist. It has come about, in my opinion, both from a misconception on the part of legislators of the motives of medical men and also through what might be termed bad technique on the part of doctors in expressing their views.

Recently, while discussing this subject with a highly intelligent physician, himself a member of the Senate of a neighboring State, I asked him in substance the reason for the failure of physicians to exert a proper influence upon medical legislation. He replied without hesitation that physicians fail through lack of agreement as to what they want. To the legislature they appear as factions representing a variety of interests, not always altruistic, and their testimony may have the effect that medi-

cal testimony usually has upon a jury—that of confusing the issue and discrediting the witnesses.

As the work of the State in caring for the sick increases, as it is sure to do, mutual understanding and cooperation between our lawmakers and private physicians must grow. To that end it is essential that our legislators be led to realize that we are not actuated by motives of self-interest and that our counsel is of constructive value; that our solicitude is for improvement of service rendered by the State and not solely for larger appropriations toward our own projects. Moreover, they should be impressed with the thought that this Society speaks with the voice of some two thousand citizens of no mean influence in their localities. At the same time the Society should, through its council or its legislative committee or both, keep in touch with current trends in medical legislation and be prepared at any time to present to our governing authorities the considered views of its membership. Our brethren of the legal profession, through their organizations, occupy a far more dignified and at the same time a more effective position, certainly as regards official appointments. The idea may seem Utopian, yet I venture to hope that the time may come when, as a preliminary step to legislation concerning matters of health, the counsel of this Society will be sought and that the Society through its informed officials will be ready to deliver an intelligent and a united opinion

THE ADMINISTRATION OF STATE MEDICINE. We have been accustomed to hear, for a number of years, vague fears expressed concerning the possible advent of "State Medicine." If we mean by State Medicine the support and control of medical institutions by the State, often in competition with the private doctor, we may as well realize not only that State Medicine has been with us for some time but also that it is thriving and there is every prospect that its rapid growth will continue. I doubt that all of us fully appreciate what our own State has already undertaken in this direction. It would be indeed interesting to trace the genesis and development of the multifarious agencies supported by the State, the general aim of which is to improve the health of its people; but time does not permit even a detailed enumeration. Briefly, health activities at present are directed through three main channels: (1) The State Health Department, (2) The State Department of Public Welfare, (3) Two Schools of Medicine.

The State Health Department concerns itself not only with community conditions such as sanitation, pure water and food and the control of communicable diseases, but also with the early diagnosis of certain diseases and impairments, the prevention of infant and maternal mortality, the dissemination of information in relation to personal hygiene, and the care of certain persons affected with disorders such as tuberculosis and orthopedic defects.

The State Department of Public Welfare carries on certain projects of a medical nature, some of which are not easily separated from its other activities. This Department conducts the State Mental Hygiene Clinic and undertakes hospitalization and medical care for its relief clients. The State hospitals for the care of mental patients are also classified as belonging to this Department.

Our Medical Schools, primarily for the education of students of medicine from Virginia to supply the people of Virginia with physicians, have required more and more funds for the support of their teaching programs and hospitals. The latter, limited as they are in their ability to render free service, of necessity enter the field of private practice.

The combined budgets of these Departments runs into several million dollars, not all of which, however, is expended for strictly medical purposes. To this may be added vast sums distributed in the State by the Federal Government and considerable amounts by municipalities and counties.

The point I wish to make is that upon these manifold activities and this large expenditure of tax funds, the private physicians of the State, themselves tax payers, do not as a body exert the significant influence that they should. It is not that we object to what is being done, nor even to the steady encroachments of State departments and State subsidized clinics upon our work. We do believe, however, that the medical work of the State should be closely correlated with that of practicing physicians and that there should be no conflict of interests. That this has been a definite aim of those in charge of our State agencies, there is no doubt, and much has been accomplished in this direction, especially by the State Health Department.

Nevertheless, there may be encountered not infrequently among practitioners a feeling that our State

XUM

Medicine is being administered, certainly in some of its branches, by laymen whose views are antagonistic to those of medical men; or by State employees whose qualifications are political rather than professional and who are thus enabled to promote their own projects irrespective of the general good. It has also been suggested that the State has already gone too far in the practice of medicine, i. e., in the care of patients of independent means, not affected by communicable disease, who ordinarily go to private physicians.

A few years ago, in his presidential address before this Society, Dr. Flippin spoke as follows: "It is the plain duty of teaching clinics at all times to avoid any undue or unnecessary encroachment upon the field of private practice and to limit the service given in such clinics as far as possible to those who have a just claim upon the bounty of the State or upon the service of the Community." I take it that this plain duty is likewise binding upon all medical activities in which the State is engaged.

Such questions cannot be settled or even considered upon the meager information which often comes from critics here and there "who themselves are sore." In my judgment it is manifestly a duty of the Medical Society of Virginia to acquaint itself with Virginia's medical work. Not only should the ostensible aims of the several agencies, together with their appropriations, be scrutinized, but the results of their work should also be investigated through correspondence with practicing physicians throughout the State. If defects are discovered, the Society should use its influence toward their correction. Such a study should by no means be entered upon in a spirit of fault finding but wholly as an effort toward helpful correlation of the activities of those who labor in a common cause and whose ultimate objectives are the same. Undoubtedly, a fair estimate by physicians of the State of their effectiveness would be of constructive value to the agencies themselves, while members of the Society would receive information, gathered from reliable sources by their own representatives, in place of what they may have suspected of being "sales talk."

Not only is it the duty of the State Society to assist in shaping public health policies and to endeavor to protect the interests of its members, but it is equally important that its members be led to cooperate to the fullest in carrying out health measures in their localities. Not infrequently, I am informed, because of indifference or lack of cooperation on the part of the local physician, work that properly belongs to him must be performed by public health employees.

On its own initiative the Society undertook, during the past year, a study of pneumonia in the State and the report of the Commission in charge of the study will be presented at this meeting. Also, at the request of the Surgeon General of the United States Public Health Service, a committee was appointed to make a report on the syphilis situation in Virginia with recommendations for its improvement. This work was thoroughly and effectively done and the committee's excellent report has already been published in the MONTHLY. It is my belief that this Society can engage in no more constructive endeavor than the foregoing studies. In studying a disease that is prevalent in the State, we of necessity take stock of our modes of practice, while our recommendations for improvement throw a stimulating light upon our deficiencies. In conducting such studies and in putting into practice such knowledge as may be gained therefrom, close cooperation from the State Health Department has been and will be necessary. During the past year, as in previous years, this has been given in generous measure both in connection with these measures and others. I cannot let this opportunity pass without expressing to the Commissioner and his staff my personal thanks and the thanks of the Society for their unfailing help and consideration.

At the last annual session, a committee was created to consider the subject of nursing and to render such advice and assistance as the State Board of Nurses' Examiners might request. It is my opinion and the opinion of several of our members, with whom I have discussed the matter, that this committee can serve a most useful purpose and should be continued. It should be charged with the duty of investigating the nursing situation throughout the State, of evaluating as far as possible the effectiveness of methods of training and practice now in vogue, of conferring from time to time with the State Nursing Board and of reporting to the Society the results of its deliberations.

What has been said so far relates to the relatively restricted sphere of our own territory and membership, but it is not possible to separate the interests

of ourselves as a group from those of medical men as a whole. Nor is it possible to separate the medical man's interests from those of society as a whole. There can be no doubt that we are witnessing today a rapidly growing socialization of our nation, in fact of the whole of mankind, and the question that faces physicians is what effect this movement will have upon medicine and what, if anything, can be done about it. The topic of State Medicine has given place to the "Socialization of Medicine" or the "Regimentation of Physicians." From time to time new heat is generated by the pronouncement of an endowed foundation, the consideration of a new security measure by Congress or when some political seer addresses physicians in endearing terms, reminding us that we have failed as citizens and at the same time holding out the fair prospect of our becoming "Federal officials."

While the economic future is shrouded in uncertainty, we cannot concentrate upon it to the exclusion of our main objective—that of developing the art and science of medicine. Our strength will always be measured by our ability to keep our house in order, our ranks free from abuses. The profession of medicine is guided by humanitarian principles to which, I am convinced, doctors today are just as loyal as ever our forefathers were and it would be indeed discordant with our high purposes were we to assume an attitude of "aggressive trade unionism, intolerant of criticism, resistant to change and insistent upon our own special privileges and interests to the exclusion of those of others." On the contrary, due to changing conditions, it is necessary that we recognize an ever increasing obligation to the community as a whole; and that we use our knowledge and our influence toward the solution of medical problems that have been assumed by the various branches of our government. Failing to exert ourselves in this direction, we leave these problems in the hands of those untrained in the requirements of medical service or at the mercy of the uplifter, the propagandist and the dispenser of political magic.

Dr. Holmes, in his classic address "Currents and Counter Currents," delivered before the Massachusetts Medical Society in May, 1860, had this to say: "The truth is that medicine, professedly founded on observation, is as sensitive to outside influences, political, religious, philosophical, imaginative as the barometer to atmospheric density Theoretically, it ought to go on its own straightforward inductive path without regard to changes of government or to fluctuations of public opinion." While this was spoken with particular reference to modes of practice, it may be taken to mean that all aspects of the physician's calling, scientific as well as economic, are responsive to contemporary conditions. Thus it appears that the problems with which we are confronted today are not fundamentally new. Some comfort may also be derived from the thought that this is not the first period of social upheaval through which civilization has passed and that, taken by and large, such periods have led to new and revolutionary thought in medicine and eventually to progress.

Professional Building.

THE USE OF SULFANILAMIDE IN THE TREATMENT OF GONORRHEA—REPORT OF RESULTS IN ONE HUNDRED CASES.*

FREDERICK A. REUTER, M. D.,
Washington, D. C.
Professor of Clinical Urology, George Washington University School of Medicine.

The substance sulfanilamide, which is the name adopted by the Council on Pharmacy and Chemistry of the American Medical Association for para-aminobenzene-sulfonamide, was first brought to my attention about the middle of December, 1936, through a thrilling report before the District of Columbia Medical Society of its use by Dr. Prentiss Willson in a case of pelvic infection and septicemia with streptococcus hemolyticus. The following day I observed the effect in a case of meningitis following mastoiditis, in which the same organism was the offender. Since chemo-therapy has long been a

*Read before the Virginia, Maryland and District of Columbia Medical Society, May 19, 1937, at Leesburg, Va.

XUM

strong arm in the treatment of infections of the genito-urinary tract, Dr. J. M. Fadeley and I investigated the substance with the idea of using it in the treatment of gonorrhea.

It was decided that a group of 100 cases of all degrees and stages of infection with the gonococcus were to be accumulated and at the end of that series an evaluation made of the results and effects obtained. This series began on December 21, 1936, when the first case was treated, and ended May 1, 1937. The following report is a preliminary one, setting forth only the gross observations, the more technical ones to be reported later.

In all cases smears of the urethral discharge were made by two or more examiners in order to verify the diagnosis. The urine examinations were made in the 2-glass test, supported by the microscope. The cases were divided for purposes of convenience into new and old infections instead of acute and chronic.

New cases are those which were seen within two weeks of the onset of urethral discharge, and consisted of both previously treated and untreated cases. Old cases are those which have had their infection for two weeks or more, and all of these previously had the conventional varied treatment for gonorrhea. Of the new cases 75 per cent showed pus in both glasses and varying degrees of mild prostatitis. Nearly all of them had burning and discomfort on urination.

All of the old cases had pus in both glasses and a varying degree of prostatic infection, from moderate to severe, besides the urgency, frequency and burning on voiding which is associated with inflammatory processes of that part. No case developed epididymitis. Two cases arriving with epididymitis promptly subsided in less than forty-eight hours, beginning to do so in twenty-four hours with disappearance of pain and swelling.

It was interesting to note that although several cases showed no response to treatment with sulfanilamide so far as the clinical evidence was concerned, they did not show, on the other hand, any tendency to get worse and remained stationary. It was felt that perhaps these cases were destined to be of that fulminating severe type in which, regardless of the physician's best efforts, all of the complications would perhaps follow, but that some protection was offered by the chemical agent. Associated with the administration of sulfanilamide were observed a long list of by-effects, chiefly a profound weakness and fatigue, indescribable epigastric sensations called "indigestion," not associated with nausea or vomiting. Several persons described a sensitiveness of the skin of the lower extremities, and one of these very definitely insisted that there was a marked slowing of and loss of force to the urinary stream. In this patient the skin sensation of the lower extremities was very marked, associated with a "tingling" of the toes. All of these and other minor side-effects disappeared in from twenty-four to forty-eight hours after discontinuance of the agent. We were unable to recognize any external or gross evidence of methemoglobinemia or sulphemoglobinemia. The time of onset of these symptoms varied, but most cases began to complain when they had taken between sixty to eighty grains. In no case was the patient prepared for these symptoms by suggestion, the report being purely spontaneous in each case.

An observation of great interest was that it became possible to predict the cases in which the result would be successful. Those who complained early and bitterly of the side-effects gave the best response to the treatment, while the cases which are counted as failures apparently had a great tolerance for the drug or did not react to it in that yet unknown manner by which it produces its best effect.

Many detailed observations remain to be interpreted. The time of recovery might in many cases be even more rapid than we know, since it has not yet been accurately determined when treatment should be safely discontinued. One case cleared in twenty-four hours and medication was discontinued. The gonococcus-laden urethral discharge recurred within the next twelve hours. Treatment was resumed for a second twenty-four hours and the patient has remained "cured" for three months. The patients were not seen every day, there being an intervening day between visits. Symptoms of dysuria and other urethral and bladder distress ceased in twelve to twenty-four hours.

Of the new cases having a clear second glass of urine and no prostatic infection all were free of urethral discharge with a pus-free urine in the first specimen microscopically in twenty-four hours except one case. This case became one of the most intractable cases I have seen for a long while, although there have been no complications. All of

these cases have remained pus-free from four and one-half months to two weeks. Many of them complained of severe urethral itching for several days after treatment had ceased, but this was promptly relieved by the methods employed to determine the cure. In one case in this group recurrence followed discontinuance of treatment, but response was prompt in another twenty-four hours and recovery ensued.

The new cases in which there was pus in the second specimen and mild prostatitis showed the usual prompt relief of symptoms and stimultaneous clearing of the second specimen within forty-eight hours. The first specimen cleared gradually over the following forty-eight hours and in most instances was clear and remained so in five to seven days. One patient in this group became progressively worse and after six days did not return, and a second one resisted treatment and has joined the ranks of the failures. The prostatic infection in all of these cases disappeared promptly and required no additional treatment. Although some of the cases in the group called old cases responded more slowly, most of them showed the same startling behavior as the previous group, such as subsidence of symptoms, clarification in second-class test and cessation of urethral discharge. If the treatment was at all successful the urine became crystal clear in both glasses within ten days in the longest case and five days in the shortest case, by the same criterion. There seems to be a tendency to carry a few shreds in the first specimen for several days after clarification and residual pus in the prostate from one plus to two plus. This, however, soon disappears on follow-up treatment designed to overcome it.

Seven cases of the old case group have defied treatment and refuse to respond to any treatment.

Of the forty cases of group one, the new cases treated with sulfanilamide, there were three cases, or 7.5 per cent, in which the treatment failed. In group two, or the old case group with sixty cases, seven, or 11.5 per cent, failed. The average length of time or a clinical recovery was five days. In other words, 92.5 per cent of the fresh cases and 88 per cent of the previously treated cases recovered.

The treatment consisted of the administration of forty grains of sulfanilamide daily, ten grains after each meal and ten grains at bedtime. Twenty-four tablets were prescribed or enough for three days from which no serious side-effects were expected, and the patient was seen every other day, at which time a complete check-up as to urethral discharge, urinalysis, prostate and general symptomatology was made. When indicated, at the termination of the use of sulfanilamide, a few of the conventional genito-urinary treatments were given to clarify the residuals. The criterion for cure was the disappearance of microscopic pus from the urine, absence of pus from the prostate gland, loss of all symptoms and the failure to produce a recurrence. It is, of course, impossible to say whether or not any of these cases will eventually light up again.

It frequently happens when a new drug is introduced into medicine that it is abused by indiscriminate use before the full force of its power is recognized. Sulfanilamide is well on its way to produce much harm, as well as benefit, unless those who have to do with dispensing it adopt some measures for its control. The literature already is filled with reports of its side-effects. It was at first believed to be non-toxic, but, with the great increase in its use, reports have shown that it should be used with caution. Since it will probably come to be used universally for the treatment of gonorrhea, one can readily visualize its uncontrolled abuse because of nation-wide publicity given the preparation under trade names, and because of the ease with which it can be purchased from any drug store counter without a prescription. Fancy the outlet through unethical pharmacies of this very useful but hazardous drug to people having gonorrhea,—the criticism of the medical profession if some one should suffer great physical harm and perhaps death as the result of the use of sulfanilamide. The cyanosis of sulphemoglobinemia is in itself not alarming since it quickly disappears on discontinuing the drug. However, if the total hemoglobin in a case of sulphemoglobinemia should fall below 30 per cent the situation might prove serious. This condition in an uncontrolled patient will probably not be recognized by the patient and his illness most likely will be blamed for his ill-feeling, rather than the medicine which he is taking for it. If he then continues to use it the hemoglobin will be further reduced. It has been reported that during the administration of sulfanilamide, magnesium sulphate by mouth or even wet dressings may predispose to sulphemoglobinemia.

XUM

SUMMARY

The use of sulfanilamide in gonorrhea gives promise of being the first satisfactory treatment for that disease. Its effect is rapid when effective, and it has been successful in producing at least a clinical recovery in 90 per cent of our test series of 100 cases. It would seem that it is effective in inhibiting the complications of gonorrhea as well, and it may lend itself to the actual treatment of its complications and sequelae.

In our second series which was begun on May 1, 1937, one case of arthritis of gonorrheal origin has shown astonishing improvement.

From our observation the result of the treatment is almost predictable by the degree of disagreeable effects produced by the drug.

It is well to advise the patient against the use of magnesium sulphate during treatment.

The uncontrolled use of the drug in gonorrhea is associated with great hazard. Because of the wide publicity given it in newspapers and periodicals in connection with streptococcus infections, the various trade names are quickly recognized on the prescription. It can be bought indiscriminately at any pharmacy and used without control. Until such a time when proper steps shall have been taken to protect the public from its harmful effects it rests with the medical profession to bend every effort to assume that duty. This can be accomplished by placing on the prescription the words "Do not refill." The use of sulfanilamide in our cases may have been continued somewhat longer than was necessary. This was because we did not have the experience to know when to consider the case terminated.

One should not let enthusiasm for this new preparation interfere with the proper evaluation of its effects and judgment in its use.

SULFANILAMIDE IN THE TREATMENT OF GONORRHEAL URETHRITIS.

T. DUVAL WATTS, M. D.,
PHILIP W. ODEN, M. D.,
MARSHALL P. GORDON, JR., M. D.,
Department of Urology, Medical College of Virginia,
Richmond, Virginia

Sulfanilamide was introduced in May, 1937, as a new form of therapy in the treatment of gonorrhea. Since July we have been using this drug routinely on all cases with positive smears in the genito-urinary out-patient department of the Medical College of Virginia. We realize we have been dealing entirely with clinic cases and that a majority of these patients have been of the colored race. There is no doubt in our minds of the value of sulfanilamide in private practice. However, the free clinics in cities will continue to treat a large percentage of gonorrhea cases in the community, and the following questions naturally arise: (1) Should sulfanilamide supplant local injections and irrigations in these clinics? (2) Should there be a combination of the two treatments? (3) What is the danger of having a large number of patients stop treatment after a few days when apparently cured?

Gelmo, in 1908, first described sulfanilamide as p. aminobenzenesulphonamide while studying the sulphonamides of sulphonilic acid. By 1911 this compound was being used extensively in the dye industry. Foester, in 1915, found it to be useful in the treatment of certain skin diseases and in septicemia. Domagk, in 1935 in Germany, reported the successful use of sulfanilamide in the treatment of infections caused by the hemolitic streptococci. These observations were confirmed later in 1935 by Trefauel, Nitti and Bovet of France. Shortly following these reports, Colebrook and Kenny of England and Bliss and Long of the United States published confirmatory articles.

The mode of action of sulfanilamide in the human body is not well understood at the present time. Bliss and Long of Johns Hopkins believe that some change takes place in the organism which renders them very susceptible to phagocytosis. No explanation of this change has been made. It has been noted that in vitro the drug has a marked bacteriostatic effect on the beta-hemolytic streptococci. Bactericidal prop-

erties have been claimed by some but not confirmed by others. It is thought that the metabolism of the organism is altered by the drug and the organism thus rendered more easily phagocytized. Bliss and Long believe that sulfanilamide has no effect on the leucocytes because Bordet in experimental peritonotis has shown that the leucocytes are capable of phagocytosis of other organisms but have no effect on the streptococci. It is strongly possible that this drug will be used for sometime with very satisfactory therapeutic results with no proof as to its exact mode of action.

After oral administration of the drug it has been found that its absorption begins quickly and reaches its height in three to four hours. If no more of the drug is taken, it is excreted in the urine in the next twenty-four hours. The drug passes rapidly into the spinal fluid, empyemic, ascitic and other body fluids, the concentration in these being only slightly less than in the blood stream. A blood level of about 10 mgs. per cent should be maintained for the drug to be effective in its action. Allport reports that 65 per cent of the administered sulfanilamide is found in the urine, for the most part in combination with an acetyl-radical.

Numerous types of reactions to the drug have been reported, such as headache, lassitude, dizziness, anorexia, nausea and muscular aching. Long and Bliss state that three-fourths of the patients develop cyanosis but they do not consider this a contra-indication to further administration of the drug. Cases have been reported of rather severe methemoglobinemia and sulphemoglobinemia. This reaction apparently occurs more frequently when the patient is taking any type of saline cathartic. Hageman and Blake report twenty-one cases of febrile reactions occurring between the seventh and tenth days and sometimes accompanied by a morbilliform rash. A few cases of hemolytic anemias and agranulocytoses have been recorded. Patients receiving therapeutic doses of sulfanilamide show a drop in the carbon dioxide combining power. Acidosis has been noted but this can be relieved by the administration of small doses of sodium bicarbonate.

Reuter, in May, 1937, reported one hundred cases of gonorrheal urethritis treated by giving 10 gr. of sulfanilamide four times daily and obtained 92.5 per cent cures in the newly infected cases and 88 per cent cures in the old cases. About the same time Dees and Colston reported nineteen cases treated successfully with this drug. Herrold of Chicago treated thirty cases with favorable results. All reports have been enthusiastic over the results obtained in the treatment of gonorrhea by this method. Ballenger, Elder and McDonald, of Atlanta, report twenty-six cases with twenty-five cures by the combined use of sulfanilamide and the sealing of 5 per cent argyrol in the urethra. They believe that the drug reaches the organisms in the tissues but has little effect upon those free in the urethra and hence the combination of the two treatments gives more favorable results.

During a period of some ten weeks we have seen 122 cases of gonorrheal urethritis upon the study of which we may draw some conclusions as to the future of sulfanilamide in our clinic work. As stated before, the majority of these patients were of the colored race and all were males. The greater percentage were uncomplicated cases but a good number showed a posterior involvement on admission. Only an occasional case had received treatment of any kind prior to the administration of sulfanilamide. Positive smears were obtained on all.

The routine treatment which we have attempted to observe is as follows: When a diagnosis of gonorrheal urethritis is made by smear, blood work consisting of hemoglobin and white count is done and if this is within normal limits the patient is given a prescription for 80 gr. of sulfanilamide daily in divided doses of 20 gr. each for a period of two days. He is instructed to take one-half teaspoonful of soda twice daily during the entire period of treatment and to report at the end of two days. At this time the dosage is reduced to 60 gr. daily in divided doses for a period of three days. From the sixth to the fourteenth day the dosage is further reduced to 40 gr. daily and during this period the patient is seen on two or three occasions. Thus the treatment is usually carried through two full weeks although occasionally it is stopped around the tenth day. In addition to a check-up by smear and examination of urine on each visit, the patient is carefully questioned as to drug reactions. Blood work is repeated at the end of treatment or before its completion, when indicated. Contraindications to completion of treatment are severe systemic reactions or a marked drop in either hemoglobin or white count. Occasionally a second sulfanilamide treat-

XUM

ment is given if the patient is not cured. Local treatments have not been used as a supplement. If the patient is apparently cured at the end of the sulfanilamide treatment, he is instructed to discontinue his medicine for one week, at the end of which time the prostate is examined for infection and a sound is passed through the anterior urethra. After this he is requested to report one or two more times at weekly intervals for a check-up.

Of the 121 patients seen, twenty-four did not return after receiving sufficient medicine for two days treatment. In addition to these, eleven patients were seen for the last time at the end of the two days' treatment at which time they were given sufficient medicine to last three more days. In fourteen instances the sulfanilamide was discontinued regardless of the patient's progress because we were absolutely sure there was poor cooperation and indifference on his part. From this group of forty-nine patients whom we cannot consider in a summary of patients treated, a few general conclusions can be drawn: (1) A large number of clinic cases, especially if improvement is marked, will not report after the first or second visit unless some means is taken whereby they are compelled to continue their visits until discharged by the physicians; (2) Indifferent and uncooperative patients comprise another fairly large group in clinic work. These conclusions do not apply to this type of treatment alone. The same has been observed with the injection treatment and we dare say the method of treatment is of no significance.

The remaining seventy-two cases can be summarized as follows:

Cured	18
Apparently cured, treatment completed, did not report for observation	14
Apparently cured, treatment not completed	13
Treatment not completed, no gonococci in smears, but urine not clear	10
Treatment not completed, condition improved, gonococci still present in smears	3
Treatment completed but cures not obtained—FAILURES	12
Treatment stopped because of drug reaction	2

The eighteen cases listed as cured completed their sulfanilamide treatment and were followed along for varying periods after completion of treatment with no recurrence. We believe them to be definitely cured. The fourteen cases with completed treatments were apparently cured at the time of their last visit but did not return for observation. We believe that practically all of this group are cured because in no instance in our series of cases has there been a recurrence when medication was stopped with negative findings after a two-week period of treatment. The next group received treatment from three to twelve days and were apparently cured at the time of their last visit. Medication had not been discontinued. Group four includes ten cases who did not complete their treatment and whom we cannot classify as apparently cured because of the character of the urine. However, none of these patients had positive smears when last seen. In group five there are three cases improved who had incomplete treatment, but with gonococci still present in smear. The next group comprises twelve cases which we term failures. Sulfanilamide was discontinued on these and local treatment substituted. As stated above none of these cases was entirely negative on examination at the end of two weeks' treatment. In some, the urethral discharge never disappeared while in others it disappeared early only to recur before the termination of treatment.

Severe drug reactions in this series of cases have been absent except in one patient who had dizziness and weakness, jaundice and a drop in hemoglobin from 94 to 70 per cent. Medication was discontinued on one other patient because of a throbbing headache. No fever reactions or skin rashes have been noted. The usual symptoms of headache, dizziness, lassitude, anorexia and muscular aching have been observed in a large number of cases in varying degrees.

Blood work was not complete in all cases but those studied showed for the most part a decrease in hemoglobin, this varying from 1 to 24 per cent. A few showed an actual increase. The white cell count showed less change, there being a slight decrease in the majority of cases with only two counts being recorded below five thousand and one below four thousand. Here again an occasional case showed an actual increase.

Of all the cases treated only five showed a mild posterior urethritis as a complication, diagnosed chiefly by the character of the urine and not by symptoms. Two of these five cases occurred in the group listed as failures. Acute prostatitis and prostatic abscess were not encountered. No periurethral

abscesses were seen. There was only one case of epididymitis, this occurring in a mild form on the right side in a patient who on admission to the clinic had an acute epididymitis on the left. None of these developed gonorrheal arthritis. In addition, practically all with posterior infection on admission showed rapid improvement symptomatically.

CONCLUSIONS

1. There should be some means instituted, either by social service or law, whereby all clinic cases with gonorrhea are compelled to complete their treatment.

2. Patients undergoing sulfanilamide treatment should be seen frequently to prevent severe toxic manifestations.

3. Any type of complication from gonorrheal urethritis during sulfanilamide treatment is extremely rare.

4. Sulfanilamide gives promise of being the most efficient therapeutic agent in the treatment of gonorrheal urethritis in clinic work as well as in private practice.

REFERENCES

Allport: *Quart J. Pharm.* 1936, v. 9, 561.

Ballenger, Elder and McDonald: *Bull. Crawford W. Long Hosp.* September, 1937, Altanta, Ga.

Bensley and Ross: *Canadian Med. Asso. J.* 1936, v. 37, 62.

Bordet J.: *Ann. Inst. Pastuer,* 1897, v. 11, 177.

Buttle, Gray and Stephenson: *Lancet,* 1936, v. 1, 1286.

Colebrook, Buttle and O'Meara: *Lancet,* 1936, v. 2, 1323.

Colebrook, L. and Kenny, Meave: *Lancet,* 1936, v. 1, 1297.

Dees and Colston: *J. A. M. A.* 1937, v. 108, 1855.

Domagk G.: *Deutsche Med. Wchnschr,* 1936, v. 61, 829.

Gelmo J: *J. Prakt. Chem.* 1908, v. 77, 369.

Gross, Cooper, and Peebles: *Proc. Soc. Exp. Biol. and Med.* 1936, v. 36, 311.

Hageman and Blake: *J. A. M. A.* 1937, v. 109, 642.

Harvey and Janeway: *J. A. M. A.* 1937, v. 109, 12.

Herrold: *The Urol. and Cut. Rev.* 1937 v. 41, 468.

Long and Bliss: *Sou. Med. J.* 1937, v. 30, 479.

Long and Bliss: *J. A. M. A.* 1937, v. 108, 32.

Marshall, Cutting and Emerson: *Science,* 1937, v. 85, 202.

Paton and Eaton: *Lancet,* 1937, v. 1, 1159.

Reuter: *Med. Ann. of D. C.* 1937, v. 6, 117.

PETROSITIS—A SUMMARY OF EXPERIENCE.*

FLETCHER D. WOODWARD, M. D.,
University, Virginia.

Infection of the petrous portion of the temporal bone may follow middle ear or mastoid infection and gains entrance through pneumatic cells either about the eustacian tube, hypo- or epitympanum, or mastoid antrum.

The frequency of pneumatization of the petrosa varies widely, and definite statistics have not yet been ascertained, but we may say that marked pneumatization of the mastoid is fair evidence of pneumatization of the petrous portion. Whether it is fifteen or thirty-five per cent is relatively unimportant in the study of any individual case.

The degree of pneumatization also varies widely, but cells are found much more frequently in areas adjacent to the middle ear and mastoid antrum, and in the perilabyrinthine area than in the tip; however, marked apical pneumatization has been frequently noted.

The bacteriology and pathology of this condition is analogous to that of the mastoid process, and if cells are present in adjacent areas, they are involved during every infection of the middle ear and mastoid. Fortunately the same method of drainage applied to the middle ear or mastoid, such as myringotomy or simple mastoidectomy, is sufficient to drain these cells in the petrosa, in the large majority of instances.

Unfortunately, there are cases, however, in which this is not true, and it is this group which has brought about so much discussion in recent years as to the symptomatology, diagnosis and operative management of this condition.

Among the cardinal symptoms and signs of severe petrosal involvement which have not yielded to the usual routine and should excite our suspicion, are the following:

1. A low grade septic temperature which continues without an apparent reason.

2. Continuous nervous irritability and aural discomfort, out of proportion to the clinical findings.

3. Perilabyrinthine irritation, as manifested by

*From the Department of Otolaryngology, University of Virginia.

Read before the Virginia Society of Ophthalmology and Otolaryngology, Staunton, Va., May 8, 1937.

vertigo with or without nystagmus to the diseased ear, tinnitus and deafness, and transient facial nerve paresis. These symptoms may be accompanied by nausea and vomiting.

4. Pain: when localized in the distribution of the first division of the fifth nerve is most suggestive; whether the impulses arrive from irritation of the ganglion, the nerve trunk or from the superior petrosal nerve, is as yet undetermined. This pain is usually located in the temple, about the eye, and is worse at night.

There are many other pathological conditions which cause pain in this area and must be eliminated, such as dural irritation from mastoid disease, sphenoid disease and occasionally from the other sinuses, nasopharynx, pharynx and teeth.

5. Otorrheae: when persistent, recurrent, or of sudden increase in amount is suggestive, and especially when the mastoid cells have been carefully exenterated.

6. Abducens paralysis was present in approximately fifty per cent of 112 cases studied by Eves; but since paralysis of this nerve occurs in many other conditions, too much importance should not be placed on it, unless it is associated with other cranial nerve involvement such as the fifth and seventh.

7. Gasserian ganglion irritation, when present, is quite significant of extradural extension, and may be manifested by paresthesia, anesthesia or pain.

8. Cavernous sinus thrombosis is also significant of extradural extension following involvement of the superior or inferior petrosal sinuses or both, or from direct extension to the sinus itself. There may be an additional third and fourth nerve involvement here.

9. Friesner has reported involvement of the ninth and tenth cranial nerves in the extradural inflammatory process, but there were no symptoms referable to these nerves.

10. A roentgenogram of the mastoid processes and petrous apices should be made when the patient is first seen. If there is a shadow of either apex at this time, no definite conclusion can be made; but if subsequent base plates show a definite change in this area, when compared to the original film, then we have rather definite evidence of involvement in this area.

11. Evidence of meningeal irritation or early meningitis is of primary importance, and early lumbar puncture should be done, merely removing enough fluid to estimate the pressure and to secure a cell count, for our only hope of saving these patients lies in early and adequate surgical treatment.

The treatment of petrositis must of necessity vary widely, and is dependent on the symptoms and signs previously discussed and one's surgical judgment. No definite rules can be formulated, but the following principles have been helpful to us in our treatment of these cases:

1. Primary suspected petrositis is an indication for mastoid operation, and particularly in well pneumatized mastoids. If evidence of dural irritation is found either by necrosis of plate or epidural abscess, or if pus is liberated from cells deep within the mastoid and adjacent to the base of the petrous pyramid, we are content to wait and watch the progress of the patient.

2. Secondary suspected petrositis is an indication for reoperation, and a careful search for sequestra, unopened cells, or fistulous tracts leading into the base of the petrous, or dural irritation, any of which may produce symptoms suggestive of petrositis.

3. True petrositis: when none of the above briefly enumerated conditions are found, and the symptoms are progressive, we are face to face with a most serious problem, and additional operative procedures must be planned; for although a certain percentage of these cases will drain spontaneously through the middle ear or mastoid and eventually heal, we have no assurance of this happy outcome, so it is our duty to adequately explore and drain this area before extradural extension or meningitis occurs.

A radical operation should not be done unless the existing condition indicates such a procedure, because to do so will destroy a certain amount of hearing, which can be saved; and if we are unsuccessful in finding a tympanic fistula, we have not gained anything, for I do not feel we are justified in approaching the petrous apex by the technic of Almour and Kopetsky because of the frequent anatomical finding of a carotid canal contiguous to the cochlea. In these cases there is no space to enter a burr, and there is no way of telling beforehand if such a space exists or not. There have been many other operations advised, using the tympanic approach, such as

those of Frenckner, Moyer, Ramadier and others, but since all of them call for a preliminary radical, the same objections hold. However, if a radical operation is indicated, it should be done and a most painstaking search for fistulae should be made, for if we are successful, adequate drainage can be established.

Lempert has recently advocated a complete apicectomy for suppuration in the apex. This operation is feasible but is largely based on the analogy of suppuration here to suppuration in the mastoid process, and concludes that it is just as important to eradicate the entire structure here as to eradicate all cells in the mastoid process. But from my limited experience, I am not ready to agree to this analogy, for subdural apicotomy has been successful in many instances largely because of the few cells located in this area, and if adequate external drainage is once established, resolution is much more apt to occur than in the analogous antrotomy. However, further experience may lead us to embrace this more radical operation.

In cases of petrositis in which a radical operation is not indicated and in those in which a radical was indicated and yet no fistulae were found, we follow in part the principles of Eagleton and use an extradural approach along the petrous pyramid.

Our technic is briefly as follows:

First.—A lumbar puncture is done in the sitting position and all spinal fluid possible is drained, or, still better, a ventricular puncture is done on the opposite ventricle, as advocated by Friesner, and all possible spinal fluid drained. These procedures give us a lax brain and permit exposure of the petrous as far as the tip.

Second.—A complete simple mastoidectomy is done and a most careful search is made for fistulae into the base of the petrosa, and if found and the symptoms are not those of apical or meningeal involvement, we are content to terminate the operation and observe the progress of our patient.

Third.—Should we be unsuccessful in the above or have symptoms referable to apex suppuration or meningeal extension, we extend our exploration by removing the adjacent squamous portion of the temporal bone, the posterior end of the zygoma, the plate of the middle fossa, the inner plate of the mastoid, and the solid bone above and below the posterior angle. The semicircular canal system is now skeletonized and a further search for fistulae is made.

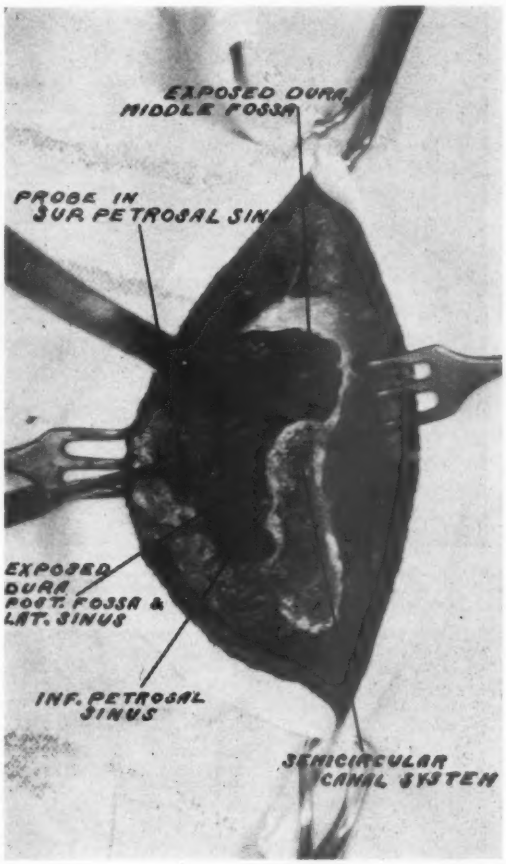

EXPOSED DURA MIDDLE FOSSA
PROBE IN SUP. PETROSAL SIN
EXPOSED DURA POST. FOSSA & LAT. SINUS
INF. PETROSAL SINUS
SEMICIRCULAR CANAL SYSTEM

Fig. 1.—Dissection on cadaver showing various anatomical land marks.

The dura can now be separated carefully from the posterior surface of the petrous pyramid as far as the external lip of the internal auditory meatus, and should infection be found here, external drainage can be established. We next carefully separate the dura from the anterior surface of the petrous pyramid in the middle fossa by using cotton tipped applicators, a suction submucous elevator, and retracting the brain with a Friesner brain elevator. This elevation of dura is carried out inward and forward in the area between the superior petrosal nerve and the superior petrosal sinus until we have indentified these structures. This procedure insures against tearing the middle meningeal artery.

XUM

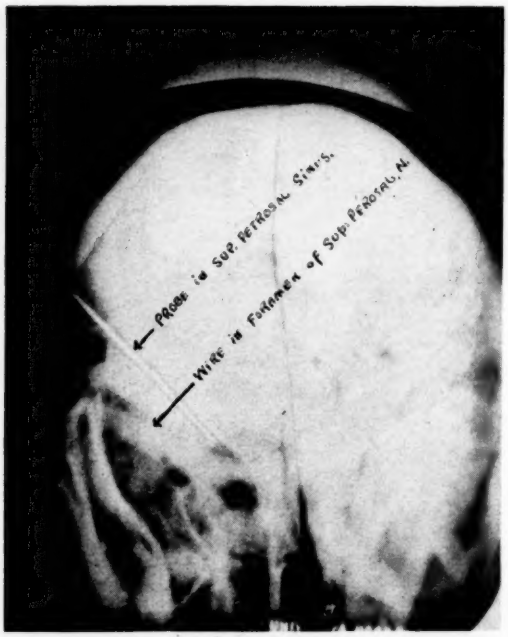


Fig. 2.—Base film, cadaver skull, with probe in superior petrosal sinus and short wire in foramen of superficial petrosal nerve. Our course to the apex lies between these structures.

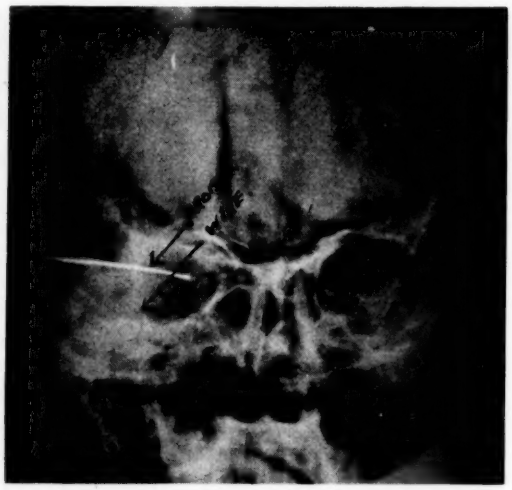


Fig. 3.—An A. P. view showing the relations of the superior petrosal sinus and the foramen of the superior petrosal nerve, when projected through the orbit.

After we have passed the foramen of the superior petrosal nerve, we are in the tip region, so careful watch is maintained for extradural pus and fistulae. If pus is found, cultures are taken so that proper chemotherapy or serum therapy may be instituted, and then the fistula is enlarged, for better drainage. If no extradural infection is found and no fistula is present, the bone may be opened by using right and left dental enamel cleavers, as advocated by Tunstall. After this procedure, a small rubber tube drain is inserted to the tip of the apex, securely sewed in position and the wound closed in the usual manner.

The one main objection to this procedure exists in those cases in which the infection breaks through into the posterior fossa between the tip and internal auditory meatus. Obviously our method of drainage here is rather inadequate, and perhaps the operation of apicectomy would better answer this problem.

Our experience covers a total of twelve cases on whom operations were performed with a mortality of three, or 25 per cent. In one of these, autopsy showed necrosis of the petrous tip and a large epidural abscess, meningitis and cavernous sinus thrombosis, due to pneumococcus type III. Autopsy was not permitted on the other two, both of whom had hemolytic streptococcic meningitis. Although the presence of apical suppuration could not be determined at operation, the clinical evidence was so strong that they are included in this group in spite of the disastrous result on our mortality statistics.

There were two additional cases of otitic meningitis who died in the hospital during this period, but since both were moribund on admission and no operation nor autopsy was performed, they were not studied sufficiently to make a diagnosis of preceding petrositis.

I wish to report five cases on whom the above operative procedure was carried out, three of whom had streptococcic meningitis, with one recovery, and two with epidural suppuration at the apex, both of whom recovered.

Case I.—Mrs. J. T. M.—No. 77658—age, thirty-four. Admitted September 21, 1935. Discharged November 24, 1935—64 days.

Patient had a partial simple mastoidectomy two months before admission. Pain and discharge continued, with occasional attacks of nausea and vertigo. Pain located chiefly in right frontal region.

Examination on admission.—Free purulent discharge from postauricular fistula; right middle ear dry. Sinusitis acute, right frontal and maxillary. Sinusitis rapidly cleared under treatment during next two weeks, but symptoms noted were pain in right frontal, occiput and neck, numbness right face, head-

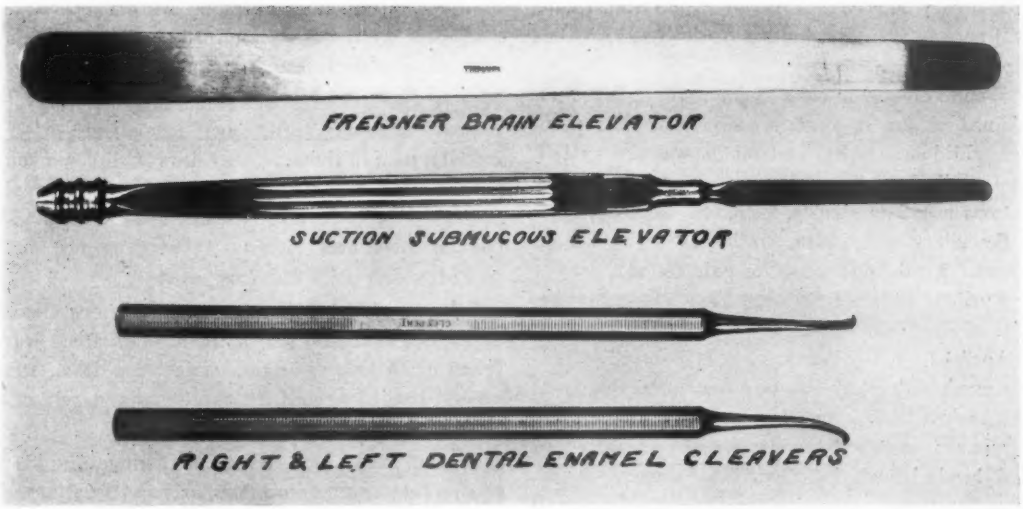


Fig. 4.—The additional instruments found useful in exploring and opening the petrous apex.

ache, insomnia, and finally on October 10th a paralysis of 6th nerve, right. X-ray showed cloudy petrous tip. Spinal fluid and general examination negative, so secondary mastoidectomy was done, and many unopened cells were removed by curettage, No fistula found. Headache and pain in eye continued, also 6th nerve paralysis remained unchanged and there was some nausea, so on October 24th, a petrosostomy was done. Hemorrhage was severe so small pack inserted and wound closed. Four days later wound was reopened without difficulty. The patient was very apprehensive. Leukocytes 19,000, and there was a slight nystagmus to diseased ear, and pain was almost constant in eye, face, jaw and occiput. At operation an extradural abscess was found and a large tip cell opened, external drain inserted. Convalescence was uneventful, and she was soon symptom free. External rectus cleared by November 23rd.

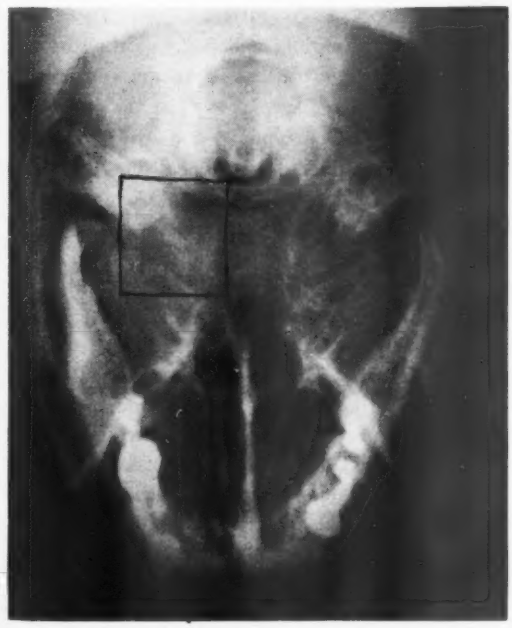


Fig. 5.—Showing a marked clouding of the petrous apex in Case 1.

Culture showed a staphylococcus. Her titer was 1-160. Other examinations were essentially negative.

Recovery was complete.

Case II.—J. H. B.—115095, age fifty. Admitted February 14, 1935. Discharged February 26, 1935.

Discharge right ear four months and left ear three months. Operation was advised after third week; refused; not seen until admitted on February 14, 1935. Simple mastoidectomy, right; few large cells containing pus and straw colored fluid found. No exposures obtained.

February 15, 1935.—Wound had to be packed for severe oozing of blood. Packs removed three days later ,and had to be repacked.

February 24, 1935.—Cultures negative general laboratory examination negative. Has complained of pain in ear.

XUM

February 26, 1935.—Discharged, no temperature, still pain in ear. Readmitted April 4, 1935. Died April 12, 1935.

Wound dressed in office in interim. Patient complained of almost constant pain in ear and about eye. Middle ear dry, and middle ear dry on left. Profuse discharge from post-auricular fistula. X-ray petrous negative; sinuses, teeth, etc., negative.

Secondary operation on April 4, 1935. No fistulae found. No definite cause for pain found.

April 6, 1935.—Pain continues, restless, insomnia.

April 10, 1935.—Petrosostomy attempted but middle meningeal artery was torn and hemorrhage was so profuse, operation had to be discontinued. Symptoms on this date were severe pain in temple and headache which followed a quiescent period, temperature rise, mental aberration, stiff neck, and 33,000 cells in spinal fluid.

April 11, 1935.—38,000 cells in spinal fluid. Course was progressively down hill, and patient died on April 12, 1935.

Operation was unsatisfactory, but no epidural pus was found, and petrous was not explored. No fistulae were found.

Case III.—D. E. (Kindness of Dr. Grant Preston, Harrisonburg, Va.)

February 12, 1936.—Three years ago patient had sore throat, rash eruption with desquamation, which was typical of scarlet fever. The course was characteristic and convalescence complete.

Three weeks ago patient had similar attack, which was unquestionably diagnosed scarlet fever.

Two weeks ago patient's right ear became infected and paracentesis was done. The drainage had been profuse and temperature subsided. There had been mastoid tenderness, but this subsided also. Three days before admission patient had severe pain in right eye and cried with it often. There had been a great deal of right nasal discharge. On evening of admission, there was a suggestive right ankle clonus and possible Kernig. No neck rigidity and fundi O. K. The posterior canal wall sagged and patient was tender over mastoid.

The right mastoid was exenterated and bone necrosis and much pus found. Usual dressing applied. Right antrum irrigated and pus found.

Next day after operation patient bright and temperature down. Continued in unusually good shape until fourth day after operation when temperature rose, pain in right eye returned, and severe pain over parietal and temporal regions in ear. Not much change in drainage.

Next morning (fifth day) temperature 104° (rectal), pain in right eye, very drowsy, diplopia and paresis right external rectus muscle with internal squint. Fundi O. K. Reflexes about as on admission. No neck rigidity. Wound opened and packed widely with iodoform gauze.

February 13, 1936.—After making preparations to open mastoid and search for fistula, patient was found much better—bright, temperature down, and general condition good. Consultants and self decided to wait for a while.

February 16, 1936.—Patient continues to look good. Temperature down but paresis external rectus persists.

February 17, 1936.—Last night temperature went up and reflexes show suggestive clonus, Kernig more positive, squint present, some neck rigidity, and patient sick and drowsy,—cries out with pain in head. Lumbar puncture done and fluid under pressure, cloudy, and in laboratory found to contain organisms which look like strep. Patient looks bad. Dr. Woodward called and will operate here tonight.

Lumbar puncture done and patient sitting up so as to drain all fluid off that is possible—4 oz. removed.

Mastoid cleaned out and some deep cells found near facial nerve region and zygoma. Lateral and superior semicircular canals explored and squama of temporal bone removed to expose middle lobe of brain. Small fistula found which seemed to communicate with dura. Dura stripped up cautiously from petrous process, and middle meningeal artery exposed as was petrosal vein. Meninges stripped cautiously down toward apex. No abscess found. Tube placed to apex of petrous and wound closed. Patient left operating table pale and frail looking but pulse good. Glucose give intravenously.

February 18, 1936.—Patient looks good—little or no pain—pulse O. K. and temperature down. Lumbar punctures done every six hours and allowed to drain several hours each night.

February 19, 1936.—Patient still looks good—250 c.c. of blood and 250 c.c. of glucose given.

Fluid looks clearer. Very little diplopia now. Mastoid dressed.

February 20, 1936.—Patient looks good—temperature down—pulse O. K.—comfortable—little diplopia—fluid clearer. Still some strep from February 19th specimen of fluid. Mastoid dressed.

Stormy convalescence, but complete recovery, and patient discharged cured on April 5, 1936.

There were about 3,021 c.c. of spinal fluid drained from this patient. Forty-six lumbar punctures done. X-rays verified mastoid and petrositis.

Case IV.—(Kindness of Dr. J. R. Gorman, Lynchburg, Va.)

J. S., male, age five years. Seen first March 6, 1936, right ear drums slightly inflamed. Glycerine drops prescribed. Seen again March 7, 1936. Right drum bulging. Myringotomy done under ethyl chloride. Child allowed to return home in country. Seen March 10, 1936, apparently in good condition, but ear discharging freely. Smear showed streptococci. Seen next on March 20, 1936. X-ray showed definite destruction of bone in region of antrum and tip, mastoid cloudy throughout. Simple mastoidectomy March 22, 1936, with apparently a normal convalescence. Mastoid wound had completely healed by April 19, 1936. Middle ear started discharging freely after being dry from fourth day after operation. Seen April 20, 21, and 22, in good physical condition and ear still discharging. April 22, 1936, child became drowsy in afternoon and started vomiting. Brought to office next day, April 23, 1936, with all the signs of a severe meningitis—stiff neck, positive Kernig, etc. Lumbar puncture showed cloudy fluid. Smear and culture showed streptococci. Cell count 2700. April 23, 1936, Dr. F. D. Woodward did a petrous operation. The child had lumbar punctures done every eight hours for the next ten days. His progress was progressively downward and died May 11, 1936.

No definite fistulae nor extradural pus could be found at operation. The diagnosis of petrositis here was not verified, nor could the mode of entrance of the infection from the ear be established.

Case V.—The forty-four days of B. M. I.—130229.

March 12, 1937.—W. F., age twenty-two, admitted to University Hospital. History influenza past week, characterized by general malaise, headache, and nasal obstruction. Pain left ear three days, no relief from myringotomy two days ago (Bernard Jones). Slight aural discharge. Temperature as high as 101, deafness and tinnitus marked, slight vertigo and nausea. Transient facial weakness, pain over ear and side of head, down neck, quite marked.

Physical examination.—Negative, except marked tenderness over mastoid, slight over adjacent area and neck, slight edema and mastoid, scanty discharge from middle ear, and moderate cervical adenitis, anterior and posterior, left. Temperature high—101.2. Patient vomited once, complained of pain. P.M.N. 10,000. Diff. N. Hb. 80 per cent.

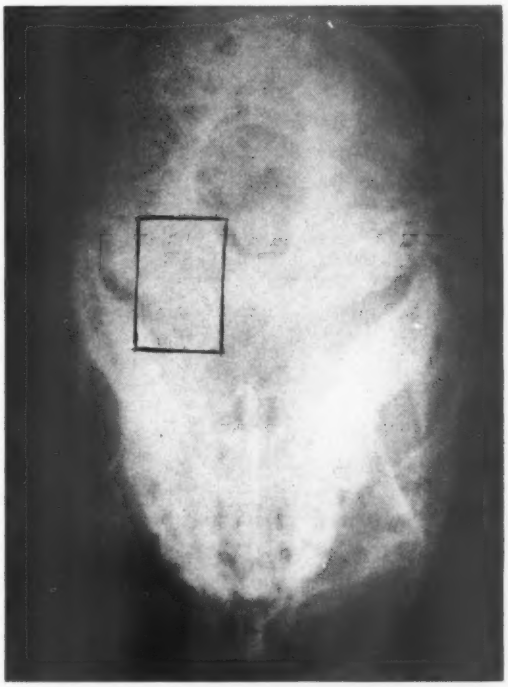


Fig. 6.—Showing definite clouding of petrous apex in Case V. Previous base plate taken sixteen days before showed a clear petrous apex.

March 13, 1937.—Middle ear cleaned of blood clot and detritus; drainage more profuse. Myringotomy opening adequate. Temperature 99.6.

Patient vomited once. Wassermann and urine negative.

X-ray—slight hazy mastoid, petrous clear.

March 14, 1937.—Drainage more profuse, still severe pain in and about ear with considerable tenderness. Temperature 99.8.

XUM

March 15, 1937.—Patient more comfortable. Temperature 100.4, but nocturnal pain about ear,

March 16, 1937.—Patient much more comfortable.

March 17, 1937.—Still marked tenderness, slight edema, and pain. Profuse discharge middle ear.

March 18, 1937.—Simple mastoid operation. No exposures, diploeic bone, granulations, slight pus antrum and tip, very little cell destruction, symptoms out of proportion to mastoid findings.

March 19, 1937.—Pain left ear and neck but cries with headache.

March 20, 21, and 22, 1937.—Complains of pain ear, neck, back of head, feels chilly, severe headache, feels generally badly.

March 23, 1937.—Headache, general body pain, feels chilly, restless, drowsy, still runs low-grade temperature up to 101 to 102 daily.

March 24, 1937.—General examination negative.

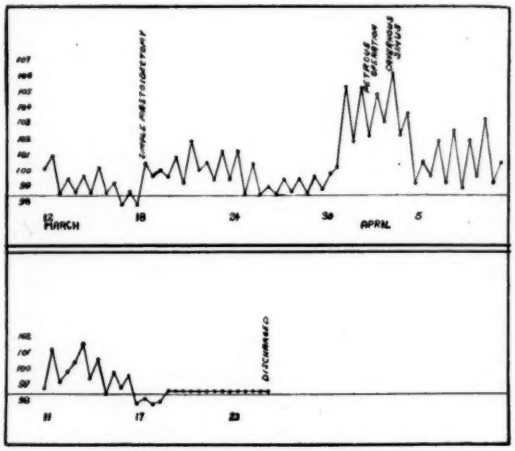


Fig. 7.—Temperature chart of Case V.

March 25, 1937.—Good day but pain in head and neck, that night quite severe.

March 26, 1937.—Vomited three times; still pain, left, etc.

March 27, 1937.—Severe nocturnal pain, mastoid healing nicely, still profuse discharge middle ear.

March 28, 1937.—Vomited once; still severe pain left face and back of eye, worse at night.

March 29, 1937.—Vomited five times; still severe pain left eye, face, etc., profuse discharge middle ear, mastoid wound practically healed. X-ray—cloudy petrous tip and left sphenoid.

March 30, 1937.—Urine negative; fairly comfortable day, but again nocturnal pain left face, eye and neck, sensation of burning of face and eye, abdominal pain, temperature high—100.

March 31, 1937.—Chill with temperature rise to 104.2. Still pain in face, etc.; drowsy—headache—abdominal and lumbar pain—urine negative—numbness of face. Examination—negative general and throat and sinuses. No clinical evidence of sphenoid disease. This patient has presented pain, then paresthesia, then anesthesia over fifth nerve. Since mastoid was diploeic and not grossly involved and has healed, we suspect extension into petrous from tympanum. Slight facial weakness.

April 1, 1937.—Temperature 9 A. M.—105.4, lumbar puncture twenty-two lymph. Sixth nerve paralysis. Will operate this P. M.

Punctured left ventricle and explored petrous. Found free pus at tip. Drain inserted.

Culture—hemo-streptococcus.

Urine—negative.

W.B.C. 8800. Diff. N. Hb. 55.

April 2, 1937.—Patient says face feels better, very comfortable. Vomited once. Temperature 105. Considerable drainage.

April 3, 1937.—Edema left eye with proptosis, restless, temperature 106.4. Prontosil 60 c.c. I.M., irrational at times. Complete third and sixth nerve, moderate seventh and fifth nerve paralysis. Cavernous sinus thrombosis. Verified by Drs. D. C. Wilson and C. C. Coleman. Urine negative.

April 4, 1937.—Temperature 104-106. Marked proptosis eyeball with chemosis conjunctivae, with fixation of globe. Patient rational, some nausea and vomiting.

Ventricular puncture wound healed.

Transfusion 350 c.c.

Patient had very good day, fair night, getting 40 c.c. prontosil I.M. and 60 gr. per os each day.

April 5, 1937.—Feeling better. Temperature 102.4 high. No nausea, eye slightly receded. Fair day and night. Blood culture negative.

April 6, 1937.—Temperature high 102.4. Very quiet day and fair night.

April 7, 1937.—Patient seems better. 350 c.c. blood transfusion. Temperature 102.8. Wound healing. Considerable discharge. Clips removed. Patient slept well all night.

April 8, 1937.—Good day—fair night. Temperature 103.6.

April 9, 1937.—Temperature 103.4. Good day and fair night.

April 10, 1937.—Temperature 102.4. Urine negative. Vomited four times, but good day and night. Eye receding.

April 11, 1937.—Blood culture negative. Temperature 101.4. Patient feels better; eye gradually receding, almost normal now. Still slight chemosis; sensation, face normal, no pain.. Third nerve practically normal, seventh and sixth nerve paralysis still marked. Vomited once, red fluid. Very good night. Wound healed nicely.

April 12, 1937.—Eating well, comfortable, eye in normal position. Eye grounds normal. Temperature 100.

April 13, 1937.—350 c.c. blood transfusion. Temperature 101.6. Good day and night.

April 14, 1937.—Prontylin, 60 gr., mouth q. 4 h., day only. Comfortable. Vomited once. Temperature 101.8. Middle ear dry.

April 15, 1937.—Temperature 100. Vomited once.

April 16, 1937.—Discontinue prontylin. Comfortable. Temperature 99.6.

April 17, 1937.—Backrest—comfortable—temperature 99.2.

April 18, 1937.—Regular diet. Temperature normal. Wheel chair.

April 19, 1937.—Temperature normal. Audiogram normal. Feels well. Middle ear looks normal, slight discharge from two drains, incision well healed, third and fifth nerve normal, seventh nerve improved, sixth N. slight function, eye grounds normal.

April 20, 1937—Good day.

April 21, 1937.—Patient walked (twenty days after operation).

April 22, 23, 24, 1937.—Slight headache at times; up walking; temperature normal.

April 25, 1937.—Patient discharged. Slight discharge from both drains; tubes shortened. General condition excellent. Slight seventh and sixth nerve paresis only. Vision 20/40. Hearing normal. Hb. 60 per cent; W.B.C. 6000.

May 5, 1937.—Patient feels well, still slight discharge from drains.

IMPLANTATION OF ENDOMETRIAL TISSUE IN DRAINAGE WOUND FOLLOWING BILATERAL SALPINGECTOMY—A DISCUSSION AND CASE REPORT.*

WALTER M. BRUNET, M. D.,
and
JOSEPH B. SALBERG, M. D.,
Chicago, Illinois

In his epochal monograph on endometriosis Sampson presented a new and important pathologic complex and explained in a masterly manner the etiology of various pelvic tumors. The origin of so-called chocolate cysts of the ovary, a type of carcinoma of the ovary, the adenomyoma of the pelvic organs, the development of uterine fibroids and ovarian and abdominal pregnancy all can be satisfactorily explained upon the basis of his discovery. He stated that the misplaced endometrial-like tissue may arise from the Muellerian or true endometrium which lines the uterus and tubes, or may be a pseudo-endometrium which is derived from the Wolffian body. Sampson describes four methods by which misplaced endometrial tissue reaches its ectopic position:

1. Primary or direct endometriosis,—misplaced tissue in the uterine wall as the result of direct invasion.

2. Peritoneal implantation. This may be due to a back flow of the menstrual blood containing uterine or tubal mucosa. The escape of Graafian cells through ovulation and the perforation of an ovarian hematoma releasing cells which become attached to the peritoneum or viscus may be a cause.

3. Transplantation endometriosis. This division concerns growth of endometrial tissue in abdominal scars following Cesarean section or other pelvic surgery.

*From the Women's Division of the Public Health Institute, Chicago, Ill.

4. Metastatic endometriosis. This method of dissemination of the endometrial cells occurs either through the blood or lymph stream and lesions are found in the groin, vulva, umbilicus, vagina or pelvis. When the inguinal glands are involved the nodule usually reacts to menstruation and becomes tender. The small cavities of the tumor become filled with blood and enlarge. Blood pigment is found in the tissues.

5. Developmental endometriosis,—a rare possibility.

A number of observers have reported their experiences from the experimental or theoretical, and practical or surgical viewpoints, and they have been of great value to the advancement of medicine. An example of the former is the experiments of Sessums and Murphy upon rabbits in which they presented evidence in support of the theory that the endometrium elaborates a hormone which influences the ovaries. These investigators demonstrated that autotransplants of the endometrium of the rabbit have a tendency to limit the degenerative changes in the ovary which usually follow hysterectomy.

Jacobson also demonstrated in his studies upon rabbits that when uterine scrapings and small fragments of endometrium were placed free within the abdominal cavity of the animal they become attached to the pelvic viscera and develop into multilocular cysts. These cysts undergo oestral changes when the animals are in heat.

Allen, in his animal experimentation, transplanted endometrial tissue into the anterior chamber of the eye and found a marked tendency to proliferation with formation of gland-like spaces. There were no changes noted in the stroma of the transplanted tissues, and this was significant for in the human there is a typical connective tissue framework in transplanted endometrial tissue. These investigators as a result of their researches posited the following questions:

1. Are the connective tissue cells transplanted *en masse?*

2. Are they proliferated transplanted connective tissue cells?

3. Are the local cells stimulated into over-growths through the pressure of heterotopic epithelium?

Allen in more recent experiments transplanted small pieces of endometria, ovary and peritoneum into the anterior chamber of the eye of the rabbit and he drew the following conclusions:

1. Uterine epithelium in rabbits possesses more marked proliferative and heteroplastic tendencies than the epithelium of peritoneum or ovary. He points out further that this tendency to proliferation carries with it the power to stimulate local connective tissue response. This property, however, is not inherent in connective tissue transplants.

From the practical or surgical standpoint a number of physicians have made valuable contributions to the literature. Lemon and Mahle reported nine cases of endometriosis arising after pelvic operation. In their series five cases occurred following ventral suspension and one each after an internal Alexander operation, pelvic adhesions, hysterectomy and oöphorectomy, bilateral salpingectomy and appendectomy and right oöphorectomy.

Heaney reported two cases observed in his practice and described briefly twenty-nine cases which he collected from the literature up to the year 1925. In his two patients one followed a Cesarean section and the other occurred after operation for ectopic gestation and retrodisplacement of the uterus.

In a paper on endometriosis by Hosoi and Meeker, eighty-seven cases of endometrioma occurring in laparotomy scars are reported. In twenty-one patients the pregnant uterus had been opened. These writers hold the opinion that Cesarean section plays a relatively small antecedent role in the production of endometriosis.

A large number of gynecologists have discussed this pathological condition and many cases have been reported.

We wish to report this interesting case:

No. 31146. White woman, twenty-six, married, para ii, was admitted to the Institute January 9, 1933, and her complaints were: Vaginal discharge for past nine months since birth of baby, increased recently; loss of energy and feels tired; occasional pains in lower abdomen for past several months. Her husband was under treatment for gonorrhea. She had pulmonary tuberculosis at the age of ten years and was confined in a sanatorium for two years. She also has received X-ray therapy for adenoma of the thyroid. Upon admission the patient appeared to be ill. She was quite fat; her weight was 217 pounds. The heart and lungs were normal and blood pressure 110/70. The thyroid was slightly enlarged. The abdomen was obese, relaxed, and striae gravidarum prominent. Palpation elicited tenderness in both lower quadrants.

Vaginal inspection disclosed an acute urethritis, the cervix hypertrophied, lacerated and inflamed. Bimanual examination revealed the fundus posterior, and the adnexae enlarged and very tender. Slides from the urethra and cervix showed many typical intracellular gonococci.

Bed rest was advised but the patient would remain quiet for a few days and improve and then continue with her household duties. We observed her from time to time and while under our care she received intramuscular injections of a foreign proteid. Over a period of eight weeks she received ten injections with slight improvement. At the end of six months there were definite adnexal residuals, limited mobility of the uterus, and pain upon bimanual palpation. On her visit on October 19, 1933, she reported menstrual irregularities and excessive flow with the passage of large clots. At this time she consulted another physician who made a diagnosis of tubal pregnancy and immediate section advised. We examined the patient on October 24, 1933, and found enlargements of both adnexae and pain on pressure. The fundus was posterior and fixed.

Our diagnosis was subacute pelvic inflammatory disease, gonococcic in origin, and we advised strongly against surgical interference.

Within a week following her visit to us on October 24, 1933, we were informed by the patient's husband that she had consulted another physician and he made a diagnosis of "pus tubes" and suggested an operation which was performed on October 30, 1933.

This patient was not examined by us again until April 29, 1936. At this time she complained of a vaginal discharge which had been present for two weeks accompanied by pains in the lower left abdomen. She informed us that both tubes had been removed. At each menstrual period since her operation she had noticed bleeding from a small drainage incision in the lower left quadrant. Examination disclosed a small mass 1.5 cm. in diameter just below the center of a line drawn between the umbilicus and the anterior superior spine of the left ilium, slightly tender, rather firm, and the surrounding skin distinctly cyanotic. The borders of the tumor show cicatricial changes which appeared to be the result of a partial healing process. At the time of our examination a drop of blood was pressed from the sinus but we gave no thought to this event as the patient's menstrual period was a week off. While making a vaginal examination we noticed slight bleeding from the cervical canal and at this time we decided the patient was beginning to menstruate. We observed the patient in the clinic for several hours and the vaginal flow and the bloody discharge from the abdominal wound both increased and we were sure she was having a normal menstrual flow and the changes observed in the appearance of the incisional tumor made it perfectly clear that the tumor was of endometrial tubal origin. The patient consented to referral.

We explained to the patient her unusual condition and asked her to consent to a demonstration before one of our prominent medical schools. This she did and many physicians and students observed her while she was menstruating from the wound.

The patient was informed that the mass could be removed surgically with every hope of a complete cure. She did not desire to be operated upon at that time and her record was closed.

BIBLIOGRAPHY

1. Sampson, J. A.: Heterotopic or Misplaced Endometrial Tissue. *Am. J. Obst. and Gynec.*, 10:649, 1925.
2. Sessums, J. V., and Murphy, D. P.: Influence of Endometrium on the Rabbit Ovary after Hysterectomy. *Surg., Gynec., Obst.*, 56:600, 1933.
3. Jacobson, V. C.: Further Studies in Autotransplantation of Endometrial Tissue in the Rabbit. *Amer. Jour. Obst. and Gynec.*, 6:257, 1923.
4. Allen, E.: Endometrial Transplantation. *Am. J. Obst. and Gynec.*, 23:343, 1932.
5. Lemon, W. S., and Mahle, A. E.: Ectopic Adenomyoma: Post-Operative Invasions of the Abdominal Wall. *Arch. Surg.*, 10:150-162, 1925.
6. Hosoi, K., and Meeker: Endometriosis. *Arch. Surg.*, 18:63, 99, 1929.
7. Heaney, N. S.: Adenomas of Endometrial Origin in the Laparotomy Scars Following Incision of the Pregnant Uterus. *Amer. Jour. Obst. and Gynec.*, 10: 625, 1925.

159 *North Dearborn Street.*

THERAPEUTIC CONSIDERATIONS OF THE REQUIREMENTS FOR WATER.*

HARRY W. BACHMAN, M. D.,
Bristol, Virginia.

One of the more frequent admonitions for the cure and prevention of disease is that one shall drink plenty of water. The importance of this admonition has probably been recognized from ancient times, certainly from the time of Celsus who made early studies of the water balance of the human body. In recent years Rountree, Coller and Maddock, and others have made significant contributions to an understanding of the water and electrolyte requirements of the body. No study of the subject would be complete without a review of their data. In this paper I shall try simply to epitomize some of the things that have already been written. There can be nothing original in it unless I may include the results I have personally observed in the practical application of their conclusions.

The water content accounts for about 65 per cent of the weight of the human organism. It is distributed in the blood, the lymph, the cerebro-spinal fluid, the formed secretions, and in the intracellular substance. Under normal conditions this water content varies but slightly due to the fine adjustment that is constantly going on between the amount of water available to the organism and that lost in the excretions. Water becomes available from three sources, namely, the fluids that are ingested as such, the water content of so-called solid foods, and the water obtained from oxidation of the food stuffs. In quantitative terms the amount of ingested fluid varies in the adult from 800 to 2000 cc. per diem. About 70 per cent of the weight of the diet is water, the ordinary diet providing through this about a liter of fluid. About 12 grams of water is obtained from oxidation of each 100 calories in the diet. Thus the normal diet, through its water content and oxidation processes, contributes 1000 to 1500 cc. daily to the body fluid. Water balance is simply the ratio between the weight of the available water and that of the water of excretion. Normally this ratio is remarkably near a constant, one being about equal to the other. If the intake exceeds the loss, the body increases in weight and the balance is said to be positive. If the loss exceeds the intake, weight is lost, dehydration occurs, and the balance is said to be negative.

Water is lost to the organism through three channels. The water of the stools is of little significance and amounts to about 150 cc. Vital physiological processes, however, are involved in the operation of the two remaining excretory channels. The loss through the skin and lungs, which is the water vaporizing mechanism, is exceedingly important in temperature regulation. About 25 per cent of the body heat is dissipated by this mechanism, the remainder being chiefly lost through conduction, radiation, and convection. Obviously the vaporizing mechanism is a continuous and vital process. Under ordinary circumstances it accounts for the loss of 1000 to 1500 grams of water a day and, owing to its association with respiration and heat radiation, it may be said to have preferential rights over the water of the stool and of the urinary excretion. Whatever water is left for excretion is used by the kidney for the solution and excretion of urinary waste material. Ordinarily this urinary waste amounts to about 35 grams of solids in solution per day. It is well known that the so-called renal diseases markedly affect the concentrating capacity of the kidney. The normal adult kidney which can concentrate urine up to a gravity of 1.029 to 1.032 requires about 473 cc. of urine, which is comparatively a small volume, to carry 35 grams of waste material, while a diseased kidney, whose maximum concentrating capacity is limited to the production of a urine with a gravity of 1.010 to 1.014, requires 1439 cc. of urine to carry the same 35 grams. If a kidney so diseased has 35 grams of solids to eliminate it is obvious that retention of waste products and an increase of the non-protein nitrogen of the blood must occur if the urinary volume falls below 1439 cc., or below the limit of renal concentrating capacity.

The prevention and treatment of dehydration, and the results of dehydration, may now be seen to emerge as the chief desideratum of this paper. Dehydration occurs from insufficiency in the fluid intake, or from an excessive fluid loss, or, more commonly, from a

*Read as part of a symposium on "Treatment," before the Southwestern Virginia Medical Society at Pulaski, on April 9, 1937.

combination of the two factors. Vomiting, diarrhea, excessive catharsis, excessive perspiration or post-operative sweating, hemorrhage, extensive exudation in infections and after burns, are common precursors of dehydration. Following operations the effect of certain of the foregoing factors is often accentuated by the necessary restriction of fluids by mouth. The clinical picture that is produced is familiar, as revealed by the sticky saliva or the parched lips and dry tongue, the dry and wrinkled skin, the sunken eyes and a little fever, and finally, in extreme cases (McGee), delirium with visual illusions of lakes and running streams. To discuss fully all that happens in the blood as a result of dehydration would be beyond the scope of this paper. Dehydration from vomiting is almost invariably attended by a reduction in the blood chlorides, often to a critical level. Again alkalosis or acidosis is produced by dehydration. There is also an increase in non-protein nitrogen. Any of these changes may be observed, depending on just what mechanism has produced the dehydration. Maddock and Coller have shown that the loss of an amount of water equal to 6 per cent of the body weight usually produces serious dehydration. When converted into figures these amounts are larger, and consequently the volume needed for the restoration of water balance is larger than might otherwise be expected—for a 22-pound child, it amounts to 600 cc.; for a 132-pound individual, 3600 cc.; for a 176-pound individual, 4800 cc.

Before attempting to make any practical application of the foregoing observations, it will be helpful at this point to summarize quantitatively the amounts of water that, under ordinary circumstances, the adult organism must be supplied with in order to make up for the losses and to keep the blood constant in volume and composition for optimal efficiency. For a dehydrated person weighing 60 kilograms (132 pounds), Maddock tabulates the requirements as follows:

Water for vaporization	2000 cc.
Water for urine	1500 cc.
Total	3500 cc.

Following the rule that one seriously dehydrated has lost water amounting at least to 6 per cent of his body weight, then, to the 3500 cc. must be added 6 per cent of 60 kilograms or 3600 cc., making a total of 7100 cc., the amount of water that this dehydrated individual is in need of, at that particular stage.

One strives to supply only what the patient is losing or has lost, thinking in this regard, as well in terms of electrolytes, sodium, potassium, chlorine, and calcium, as in terms of water. Owing to the tendency to employ physiological saline solution parenterally for all patients, the warning given by Matas in 1924 is worthy of repetition, that, unexpectedly, excessive and harmful amounts of sodium chloride may be introduced. Matas emphasizes that edema of the lungs and degenerative changes in the heart and kidneys occur following the administration of excessive amounts of sodium chloride. In fact, the occurrence of edema in surgical patients receiving fluids parenterally is not uncommonly observed. One strives to supply what the patient is losing or has lost. Maddock and Coller state that 20 per cent of their patients have been vomiting and had need for "some" sodium chloride besides water and dextrose. They also warn, however, against giving too much sodium chloride. They recommend either of two procedures for meeting the situation. The simpler procedure is that the 24-hour vomitus be measured and then an equal volume of Ringer's solution be administered. Otherwise, the needs are estimated by determinations of the blood chlorides and the combining power of the serum for carbon dioxide. The remainder of the patient's fluid needs are met with 5 per cent dextrose in distilled water. The dextrose serves as a readily available food, it prevents ketosis from the oxidation of fats, and it protects liver function. Thus the fluid and electrolyte requirements of the individual, and to some extent his nutritional requirements, can satisfactorily be met.

The intravenous route of administration is preferred to the subcutaneous, the rate being about 400 cc. per hour, using a needle rather than a cannula in the vein. This rate of administration is such that rest periods are possible and fatigue of the patient is therefore diminished.

REFERENCES

1. Rountree, L. G.: "The Water Balance of the Body"—Collected Papers of the Mayo Clinic, 1922, page 470 to 500.
2. McIver, M. A., and Gamble, A. L.: "Body Fluid Changes Due to Upper Intestinal Obstruction," *J. A. M. A.*, November 24, 1928, Vol. 91, page 1589 to 1595.
3. Coller, F. A., Dick, V. S., and Maddock, W. G.: "Maintenance of Normal Water Exchange with

XUM

Intravenous Fluids," *J. A. M. A.*, November 7, 1936, Vol. 107, page 1522 to 1527.
4. Maddock, W. G., and Coller, F. A., "Water Balance in Surgery," *J. A. M. A.*, January 2, 1937, Vol. 108, page 1 to 7.
5. Coller, F. A., and Maddock, W. G.: "A Study of Dehydration in Humans," *Annals of Surgery*, November, 1935, Vol. 102, page 947 to 960.

510 Cumberland Street.

POST-OPERATIVE PULMONARY COMPLICATIONS.*

LIEUT. CMDR. H. V. HUGHENS, (M. C.), U. S. N.,
Norfolk Naval Hospital,
Portsmouth, Virginia.

Among the post-operative worries of the surgeon are pulmonary complications. Various causes have been given and preventions suggested for these complications. Any specific anesthetic as a cause has been pretty well ruled out.

In the *American Journal of Surgery*, September 21, 1933, J. N. Coombs, Temple University Hospital, reported on 5,894 operations in which there were thirteen proved post-operative complications, including eight cases of pneumonia, two atelectasis, two pulmonary embolism, one accidental pleural effusion. Eleven of the thirteen died. One pneumonia, one atelectasis survived.

E. Kammer states that at the Geneva Surgical Clinic in seven years 7,056 operations were done. Pulmonary complications followed in 13 per cent of the most serious operations, and 4.5 per cent in the more simple. He emphasizes thorough pre-operative examination and elimination of the foci of infection where possible.

The value of post-operative ventilation of the lungs has been the subject of many articles. For the prevention of post-operative pulmonary complications writers have usually advocated the administration of CO_2 5 per cent plus O_2 95 per cent for various periods of time and at certain intervals following operation. The benefits derived from this procedure have been questionable.

This report covers a period of twenty-two months and includes 538 major operations. Only cases given spinal anesthesia were considered. Other forms of anesthesia are not included because of the small number given.

At this hospital from October 1, 1934, to July 15, 1935, inhalations of CO_2 plus O_2 were only given post-operatively upon the order of the surgeon. It was customary to order these inhalations, when spinal anesthesia had been used, for patients who had some mild respiratory symptoms. During this time we had an occasional case of bronchopenumonia and of atelectasis.

All post-operative cases on the Surgical Service are urged to practice deep breathing and to change position in bed frequently. Corps men are instructed to see that patients do change position and to help them to do so. The importance of yielding to the cough impulse is also explained to them. In cases where spinal anesthesia is used, the foot of the bed is elevated twelve inches for four hours post-operatively.

Pre-operative sedation usually was morphine gr. ¼ and atropine gr. 1/150. The spinal anesthetic consisted of novocaine crystals up to 200 mgms. dissolved in about 3 c.c. of spinal fluid. An ampoule of gr. ¾ ephedrin was given intramuscularly simultaneous with the spinal anesthetic. Post-operatively morphine gr. ¼ was given p.r.n.

From July 15, 1935, to June 1, 1936, 169 post-operative cases were given CO_2 plus O_2 inhalations at three periods for from five to eight minutes or for sufficient time to produce thorough pulmonary aeration. The first administration was given four hours post-operatively immediately after foot of bed had been lowered. The second was given twenty-four hours later, and the third forty-eight hours later.

In this group there were eight pulmonary complications, or 4.7 per cent. Three were diagnosed on symptoms and physical examination and confirmed by X-ray as atelectasis. One was diagnosed by symptoms and physical examination alone as atelectasis. Four were diagnosed by symptoms and physical examination as atelectasis, but X-ray report was bronchopneumonia.

From June 1, 1936, to October 1, 1936, 105 post-operative cases were given CO_2 plus O_2 inhalations

*Read before Norfolk County Medical Society, April 12, 1937.

at six periods for from five to eight minutes or for sufficient time to produce thorough pulmonary aeration. These inhalations were given at one-hour intervals following operation. In this group there were five pulmonary complications, or 4.7 per cent. All were diagnosed by symptoms and physical examination as atelectasis. One was confirmed by X-ray. The other four were reported by roentgenologists as bronchopneumonia.

From October 1, 1936, to April 1, 1937, 178 post-operative cases were given only one CO_2 plus O_2 inhalation in the same manner as previously described. This inhalation was given on the operating table or immediately upon return of the patient to the ward. In this group there were two pulmonary complications, or 1.78 per cent. These cases were diagnosed by symptoms and physical findings and confirmed by X-ray as atelectasis.

During the period of this report there were eighty-six patients upon whom operations were performed under spinal anesthesia and who were not administered CO_2 plus O_2. One patient or 0.86 per cent, developed atelectasis which was diagnosed by symptoms and physical findings and confirmed by X-ray.

Four of the sixteen complications ran clinical course of bronchopneumonia. Twelve clinically appeared to be atelectasis.

Most of the 538 cases included in this study did not require extensive surgical procedures. They were cases taken consecutively for the period covered. The complications occurred in the more simple cases. There were two in bilateral herniorrhaphies; all the others were in appendectomies. The extremes of time consumed per operation were forty-five and fifteen minutes. Complications were equally distributed among the cases of the several operating surgeons on the service.

Six of the eight cases developing complications in the first group and two of the five in the second group had physical defects which must be considered as etiological factors in the complication.

Notations in their clinical records:

1. Had congenital deformity of chest, diminished capacity on left. Operated ten days after admission. Diagnosis: app. chron.

2. Thin frail young man. Rales in both apices. Studied eleven days. Diagnosis: app. chron. To duty after three months but later invalided from service.

3. Short diastolic murmer. Diagnosis: hernia bilateral.

4. Admitted with catarrhal fever, sore throat and scattered rales both lungs. Acute appendix removed twenty-four hours later.

5. Breath sounds roughened on right. Moist rales right base. Emergency appendectomy.

6. In hospital under observation for seven days before operation during which time he ran pulse 80 to 100 and afternoon temperature 99 plus. Diagnosis: app. chron.

7. Temperature 99.2 upon admission. Moist rales right apex with dullness to percussion. Under observation for six days for pulmonary condition before operation. Diagnosis: app. acute.

8. Infection of tonsils. App. chron.

9. This patient is the one out of the group of eighty-six who received no CO_2 plus O_2. He had cough upon admission and was treated for this condition for eighteen days before operation. Diagnosis: app. chron.

CONCLUSIONS

It seems from this study that:

a. The administration of CO_2 plus O_2 inhalations had no influence towards preventing post-operative pulmonary complications.

b. Time consumer in performing the operation was not a factor in producing complications.

c. Experience of the surgeon was not a factor in the complications.

d. It is obvious that an outstanding contributing factor in the complications was in some instances the poor pre-operative condition of the patient.

THE EFFECTS OF TOBACCO SMOKING ON THE VASCULAR SYSTEM.

D. G. CHAPMAN, M. D.,
Richmond, Virginia.
From the Medical Department of St. Elizabeth's Hospital.

With the marked increase in the smoking of tobacco the physician is often called upon to give scientific advice about continuing the use of tobacco. There are many opinions on the subject and most of them are yet in dispute. There are, however, certain generally acknowledged effects of tobacco on the hypersensitive individual. Those who have any type of vasospastic disturbance should be warned of the dangers of smoking before the habit has become too difficult to stop. Addiction to tobacco does not lead to the destruction of character as the morphine or alcohol habit sometimes does. The tobacco habit is probably as hard to control as either of the others because of its general usage and the fact that it is difficult to give a patient enough scientific data to convince him that tobacco is causing many of his symptoms.

In the United States in 1936 over one hundred and fifty-three billion cigarettes were manufactured; in 1930 over six billion cigars were manufactured, about fifteen times the number manufactured in 1910. The use of pipe and chewing tobaccos is also increasing. Snuff is little heard of except in certain sections, but thirty-five million pounds were manufactured in 1930. In the past seven years there has been an even greater increase in the manufacture of cigarettes. Tobacco is smoked all over the world, and estimates of the number of smokers in the United States have ranged from 66 per cent to 81.8 per cent of the population, and more recent figures are probably a great deal higher.

Experiments have proved that the nicotine content of tobacco is harmful. Nicotine is a liquid alkaloid with a rank smell and it is a volatile, irritating, tarry oil. The Virginia tobaccos are estimated to contain from 1.68 per cent to 6.17 per cent nicotine. Havana tobaccos, used mostly for cigars, contain 0.9 per cent to 1.4 per cent. The average percentage of nicotine in pipe tobacco is 1.45 per cent to 2.84 per cent, in cigars 0.91 per cent to 1.8 per cent, and in cigarettes 1.06 per cent to 3.11 per cent. The average cigarette weighs one gram and contains approximately 2.2 per cent nicotine; if this were two-thirds smoked, it would yield 3.78 mg. of nicotine. The nicotine and other irritating by-products of tobacco are increased by the amount of moisture in the tobacco, the rapidity of smoking and the tightness of packing. With the increase in moisture of the stump of a cigarette or cigar the last third is estimated to contain 15 per cent more nicotine, and if the last third is rapidly smoked, as high as 66 per cent increase in nicotine. The absorption in the mouth is estimated to be about 66 per cent and, if inhaled, as much as 88 per cent is absorbed. These estimates are approximately correct, since they are checked by administering the nicotine content of a cigarette intravenously and getting the same clinical response on the blood pressure, pulse rate and surface temperature. The lungs introduce the nicotine rapidly into the circulation. When larger amounts are taken by mouth, absorption is diminished and slower. The smoker often states that he does not inhale, or he uses denicotinized cigarettes. There is very little difference in the effect on the vascular system, and the smoker of denicotinized cigarettes shows the same changes.

Lobeline sulphate recently suggested for the control of the tobacco habit produces the same systemic effect on the pulse rate, blood pressure and skin temperature as tobacco. Its use should be forbidden in the vasospastic individual.

The smoke that goes into the air from the burning end of a cigarette is not as irritating to the eyes, nose and lungs as the "puffed" or "suction" smoke. The suction smoke is composed of many ingredients, such as nicotine, pyridine and its derivatives, carbon monoxide, various aldehydes, hydrocyanic acid, methyl alcohol, a volatile oil, and a small amount of arsenic. The nicotine and pyridine bases form an irritating tarry oil that collects in the stump of a cigarette or cigar and in the bowl and stem of a pipe. When the stump of a cigarette is smoked close to the end, this substance is revolatilized and the moisture content is markedly increased. The more moisture there is, the more tightly the tobacco is packed, and the more quickly it is smoked, the greater the nicotine content in the smoke. The thin cigar that burns with less heat and more complete oxi-

dation and combustion has less available nicotine than the thick cigar, and for the same reasons the cigarette has still less.

The local effects of tobacco are manifested by irritation of the mucous membrane of the mouth, nose, larynx and bronchi. In the esophagus, stomach and probably the intestinal tract, there is more or less irritation from swallowed saliva. Very little heat from a cigarette or cigar reaches the mouth if it is smoked slowly and only half is smoked, but if three-fourths of a cigarette is smoked rapidly the heat may reach 140° F., and under similar conditions a cigar stump may generate up to 190° F. There is a definite influence upon periodontal circulation. The effect is one of construction of the capillary walls of the mucous membranes; the blood flow is slowed and the tissues are not as well nourished. Leukoplakia is produced in many instances by tobacco and does not often improve until smoking is discontinued.

There are conflicting opinions regarding the relation of tobacco to cancer. Most statistics reveal a higher percentage of cancer of the lip, tongue, mouth, larynx, lungs and esophagus in smokers. The New York Department of Health records show a decrease of deaths from cancer of the lip, mouth and tongue in women during the past few years, and there has been no increase in the death rate among men. Earlier diagnosis and treatment may be responsible for this. Many observers have been unable to demonstrate a carcinogenic factor in tobacco; many irritating lesions are produced, but they tend to heal spontaneously.

The effect of smoking on the gastro-intestinal tract is both local, from the swallowed saliva, and systemic through its effect on the sympathetic nervous system. There are allergic factors also. Many observers have called atention to the harmful effect of smoking in case of peptic ulcer. It is commonly observed that functional gastric disturbances are frequently cured or at least benefited by discontinuing the use of tobacco. Gray studied three hundred cases of functional gastric disturbance in smokers, and heartburn was a symptom in over half of the cases, symptoms simulating duodenal ulcer in fifty-one cases, and pylorospasm in thirty. There were sixty-three cases of duodenal ulcer. Smoking increased the gastric acidity in fifty of these patients.

Observers have stressed the similarity of symptoms produced by smoking and those from duodenal ulcer in young adults. The hunger contractions are inhibited, appetite is dulled, the gastric secretions and motility are first increased and later depressed. Records have failed to show an increase in the incidence of peptic ulcer in the female with increased smoking.

The role of tobacco in thrombo-angiitis obliterans has been the subject of a great deal of investigation in recent years. Opinions are now in general accord that tobacco smoking is an exciting factor, if not an etiological one, and has a definite bearing on the progress of this disease. Erb, in 1904, concluded that tobacco smoking was a predisposing cause of peripheral vascular deficiencies, and clinical observation by many physicians over a number of years confirmed this opinion.

What are some of the proved cardiovascular and pharmacologic effects of tobacco smoking on the majority of individuals? There is a decrease in blood flow from 57 per cent to 83 per cent, a consistent increase in blood pressure averaging between 12 and 15 m.m. systolic and 10 to 14 m.m. Hg. diastolic, an increase of 10 to 20 pulse beats per minute, and a decrease in skin temperature estimated by various observers to range between 0.8° F., to 15.5° F., being generally lower in the toes than in the fingers. The temperature at the forehead and waist does not show a drop. There is a slowing and at times a complete stoppage of the blood flow in the nail fold capillaries. Observations by White and Moffat showed that the results varied with the same individual under the same conditions at different times. The length of time and the number of cigarettes the person usually smokes had no constant bearing on the results. The same individual frequently gets a varying degree of stimulation from tobacco. The individual's physical condition, the nervous, emotional, inherited and acquired neurovascular balance, the time of day, relation to food, the amount of tobacco consumed, and time he had previously smoked all have a definite bearing on the effects produced. Many vasospastic individuals, and especially those with Buerger's disease, complain of a burning, stinging sensation, of numbness or pain in the feet immediately after beginning to smoke a cigarette, and not infrequently there is pain in the region of the distribution of the radial artery. There is frequently dryness of the mouth, speech is occasionally tremulous, there may be dizziness, headache, or fullness in the head, and often noises in

XUM

the ears. The excessive use of tobacco may cause nervous irritability and the sense of general well-being is often adversely affected.

Silbert reviewed 289 cases of Buerger's disease and stated that 50 per cent of the patients in whom amputation was necessary continued to smoke in spite of repeated warnings. In the arrested cases recurrence of symptoms could almost always be traced to the resumption of smoking, and in only two of the cases had progression of the disease taken place where smoking had been absolutely discontinued. Barker's review of 305 cases showed that there were few with the disease who did not use tobacco, and that most of them used it excessively. The severity of the disease is greater in excessive smokers.

Animal experiments have proved that nicotine stimulates the sympathetic ganglion cells. Hoskins and Ransom state that the pressor effect of nicotine is from stimulation of the vasoconstrictor center in the medulla and a stimulation of the sympathetic ganglion cells. They further believe the effect is about equal on the two systems. Experiments have shown that skin temperature does not drop in the toes if the posterior tibial nerve is blocked with procaine. Smoking after cervicodorsal ramisection and ganglionectomy, and after lumbar ganglionectomy for Raynaud's disease, produced no change in skin temperatures, but the usual rise in blood pressure and pulse rate occurred. The same experiments were carried out where unilateral lumbar ganglionectomy was done; there occurred a drop of skin temperature in the normal extremity but none on the ganglionectomy side. There is sufficient information to prove that prolonged vasoconstriction will initiate vascular occlusions. These changes may occur in the arteries, arterioles, capillaries, venules and veins.

Cigarette smoking produces the same effect on blood pressure, pulse rate and skin temperature in the female as in the male. Jewish males are more sensitive to tobacco than Gentile males. The infrequency of Buerger's disease in women may be explained by McGrath's experiments on rats when he was able to prevent development of gangrene of the tail of the female rat by giving toxic quantities of ergotamine tartrate along with large doses of theelin. Other experiments on rats have shown that nicotine injected into rats produced gangrene in 33 per cent of the male rats and none in the female rats. The sex hormones probably protect the female.

Does smoking produce deleterious effects on the heart? It is known that there is an increased blood pressure, an increase of the pulse rate, a slowing of the circulation in smaller vessels, and vasoconstriction of the vessels of the feet and hands. In some individuals smoking produces palpitation, breathlessness on slight exertion, precordial or substernal pain and various types of arrhythmias. If tobacco produces vasoconstriction of certain vessels of the body with pain, tingling and other signs of anoxemia, why should the smaller vessels of the heart be excluded from a similar response? Is not the precordial distress of some people similar to the distress others have in their feet and at times in various other arteries over the body? White and Sharber examined the records of 750 patients with angina pectoris, and 750 without angina pectoris. They show a higher percentage of non-smokers with angina pectoris—46.1 per cent as compared with 37.2 per cent who smoked, and they conclude that tobacco smoking is not primarily responsible for angina pectoris. Occasionally patients state that reduction in the amount of tobacco smoked was helpful and reduced the number of attacks; rarely did angina pectoris cease when smoking was discontinued.

While smoking may be innocuous to a few individuals, and it constitutes a source of gratification and pleasure to many, in a small group, particularly those of the vasospastic type, it is distinctly injurious and may permanently affect their health.

BIBLIOGRAPHY

1. Coller, F. A., and Maddock, W. G.: Peripheral Vasoconstriction by Tobacco Demonstrated by Skin-Temperature Changes. Proc. Soc. Exper. Biol. & Med., 29:487, January, 1932.
2. Maddock, W. G., and Coller, F. A.: Peripheral Vasoconstriction of Tobacco and Its Relation to Thrombo-Angiitis Obliterans. *Ann. Surg.*, 98:70-81, July, 1933.
3. Barker, N. W.: Vasoconstrictor Effects of Tobacco Smoking. Proc. Staff Meet., Mayo Clinic, 8:284, May 10, 1932.
4. Bull. 307, Connecticut Agriculture Experimental Station, New Haven, Conn., May, 1929. The Nicotine Content of Tobacco, Bureau of Investigation, *Jour. Am. Med. Asso.*, 101:385, July 29, 1933.
5. Wright, I. S., and Moffat, Dean: The Effects of Tobacco on the Peripheral Vascular System, *Jour. Am. Med. Asso.*, 103:318, August 4, 1934.
6. Johnson, W. M.: Tobacco Smoking: A Clinical Study. *Jour. Am. Med. Asso.*, 93:665, August 31, 1929.
7. White, Paul D., and Trimbler, S.: Tobacco, Alcohol and Angina Pectoris. 102:665, March 3, 1934.

INFLUENZA.

W. P. FRAZER, M. D.,
Hamilton, Virginia

A variety of maladies from a head cold to backache are classified under the term influenza, and this term is often used to hide our ignorance. The physicians in the same community seem to have different trains of symptoms from which to make the diagnosis; however, during the latter half of February and the first two weeks of March of the past winter there occurred in this locality an epidemic which was universally called influenza. During this time I saw between four and five hundred cases, and I believe that one-fourth of the population was attacked. No accurate records could be kept, so the remarks that I make about these cases will be very general, pertaining to the entire group rather than any individual case.

As defined in Cecil's textbook, "Influenza is a highly contagious specific infectious disease which occurs most characteristically in epidemic and pandemic outbreaks during which it spreads with extraordinary rapidity." It is commonly thought to be a disease of great antiquity, but the first authenic record begins with the European epidemic of 1510. It first appeared in this country in 1647, and has occurred endemically ever since, with six great epidemics (1729-32; 1780-82; 1830-33; 1847-48; 1889-92; 1918-20) with such magnitude and severity as to constitute a pandemic scourge. In regard to the exact cause of the pandemics there has been a great deal of speculation, but from the studies of Zinsser, Vaughan, and Frost on the recent pandemic, it seems that influenza is endemic throughout the major part of the world and that the great pandemics may arise from anyone of a number of foci or perhaps simultaneously from two or three. That pandemics occur once about every generation, and that the local epidemics seem to be increasing in severity before a pandemic sweeps the country are facts that should be reconciled in discussing the etiology of this disease. But here we are interested in only the local epidemic and whether it is the forerunner of a pandemic, which according to the past should occur in about ten years, is a matter time only can tell.

Early in the year 1892 Pfeifer discovered the influenza bacillus and for a while it was generally supposed to be the sole pathogenic agent. This has never been proven and since 1918 some writers have tried to denote a filtrable virus and other bacterium pneumosintes, but nothing has been ever demonstrated satisfactorily as the sole etiological agent. Different types of the disease have been described, varying with different local manifestations. These are the respiratory type with symptoms referred to the respiratory tract, the gastro-intestinal type with symptoms of the gastro-intestinal tract, and the general or rheumatic type which manifests itself by violent paints all over the body with no respiratory symptoms. If these symptoms occur in the last type, they occur late in the disease.

The type prevalent around this community during the past winter had an abrupt onset; chilly sensation, prostration, a rather marked headache particularly about the eyes, and frequently a backache or a soreness in the muscles of the limbs. In several cases prostration was so marked as to cause fainting. In several hours there followed catarrhal symptoms of the head; this usually began in either the nose or trachea, occasionally in the pharynx. There would also be some smarting and weeping of the eyes. At the beginning of the attack the temperature would be subnormal, varying usually between 97 and 98 degrees Fahrenheit. After the first few hours the temperature would rise and the patient would have a couple of degrees elevation for a day or so. In a few cases the temperature would reach as high as 104 degrees Fahrenheit in the afternoon, but in all cases would begin to fall within thirty-six hours. On examination the patient would appear iller than the temperature would indicate, the pulse would be normal or only slightly elevated, the face would be flushed, eyes running, and there would be some injection of the mucous membranes of the nose. The pharynx would be injected, uvula large and edematous, but rarely would you hear of the complaint of sore throat. At onset many or at least on the second day all would have a dry tight cough, a tickle in the throat, and slight soreness behind the sternum. The sputum at first would be blood tinged, but as soon as the cough loosened up this would disappear. On careful examination of the chest nothing could be heard of any significance

XUM

except an occasional scattered coarse rale. In the average case the temperature would be normal in about three days, and except for a slight weakness the patient would seem to be entirely well. In some instances the cough was slow about clearing up, and some of the older people complained of weakness for several weeks.

The most striking characteristic of the influenza of this particular epidemic was its manner of smiting an entire family within a few hours. On one day one member of the family would be sick, and on the following day the remainder of the household would be suffering from the malady. It seemed to affect the colored race just as severely as it attacked the white people. The average time in bed for those who sought medical attention was about five days. A great number never had medical attention, some never stopped work, and other remained in a day or so.

The diagnosis was relatively easy and was made from the history, general appearance, examination of mucous membranes of nose and throat, negative chest examination, and from the temperature. In four cases which I saw there were confusing abdominal symptoms, which consisted of nausea and vomiting from the onset, and generalized abdominal tenderness on palpation. Because it simulated an early attack of appendicitis, a white blood count was done in each case. In three of them the count was between five and six thousand, and in the fourth was six thousand and five hundred. On the day subsequent to the count, the abdominal findings had disappeared and the catarrhal symptoms of the nose and throat had developed.

The treatment was very satisfactory, as it is with any self-limiting disease. Bed rest, liquid diet, and a good laxative on the first evening was the usual routine; fluids were forced and fruit juices were encouraged. For the relief of the headache and rhinitis I found the following formula very satisfactory:

Codeine Sulphate	1/3 gr.
Atropine Sulphate	1/300 gr.
Caffeine Citrate	1/2 gr.
Acetyl Salicylic Acid	4 gr.

Dispense ten such capsules.

Sig: One every four hours with two glasses of water.

The atropine checked the nasal discharge, and the codeine and acetyl salicylic acid were very effective in relieving the aches and making the patient feel better generally. The caffeine is usually added to the above formula to counteract any depressant effect of the aspirin and codeine. When the above formula is used, there is very little indication for the use of nose drops, and I think that this fact is enough to warrant its use. When nose drops are used the infection is being pushed back, and blowing and sucking air—as is done when nose drops are used—favor driving the infection into the sinuses. If nose drops are insisted on, a 2 per cent solution of ephedrine sulphate in normal salt solution is very effective in shrinking the membrane and causes little irritation. The oily preparations are pleasanter, but not so effective. They should never be used in infants and small children because of the danger of a lipoid pneumonia. As the patients seldom complained of any sore throat, the pharyngitis did not need any particular treatment. Gentle painting of the throat with a 2 per cent solution of silver nitrate once a day would relieve the discomfort and make the patient not as apt to smoke. The gargles so often recommended amount to nothing more than a mouth wash, as the solution seldom ever reaches the pharynx. Perhaps the most difficult thing to treat is the tracheitis and mild form of bronchitis present in so many of the cases. At first the cough is tight and an expectorant should be used, such as:

Ammonium Chloride	ʒii
Brown's Mixture	℥ii
Syrup of Wild Cherry	q.s. ad ℥iv

Sig: One teaspoonful every hour until cough is loose.

This does not have a very pleasant taste, but is cheaper, and gives, I believe, better results for the tight cough than the various patent highly advertised, pleasant-tasting cough syrups. The humidity of the room has a great deal to do with the tightness of the cough. Steam inhalations are probably the best aid. In case a patient refuses to practice such inhalations, an effective substitute will be found in putting large pans of water on the stove and radiators. When a patient insists on adding something to the water, a teaspoonful of the compound tincture of benzoin meets the requirement. As soon as the cough becomes loose the cough syrup should be discontinued. Usually after a day or so the cough stops; however, if it fails to cease and is too loose, it may be checked by a creosote prepa-

ration or a cough syrup with an adequate amount of codeine sulphate. If the hacking cough continues, as it does in some of the older people, cod-liver oil or an emulsion of it seems to give the best results.

Complications were of the rarest sort in this epidemic. An occasional case suffered with his ear or sinus, but opening the ear drum and symptomatic treatment of the sinus was all that was necessary. This is attributed to the mild form of the disease, and not to any particular therapy. Two old people developed pneumonia from which they died. Both of the victims were over seventy-three years of age, and such would probably have been the result with any disease they might have contracted. No other patient showed any signs of pneumonia.

CONCLUSIONS

1. In this paper there are no accurate case reports, nor do we present a thorough review of the literature—handicap of the rural practitioner.

2. An attempt is made to make some generalized remarks on the mild form of influenza which was so prevalent in Northern Virginia during the past winter.

3. The author's treatment is given, but the satisfactory results were due to the mild form of the disease rather than to the treatment.

LIGATION OF THE UMBILICAL CORD BY THE USE OF CLAMPS.*

WALTER MCMANN, M. D.,
Danville, Va.

The bacteriologic researches of Pasteur and the theories and teachings of Lister were not only the foundation of modern surgery as we know it today, but they were the means to the end of saving and restoring lives in other fields of medicine. Not the least of these is the field of neonatal life. Before the advent of asepsis it was a common happening for epidemics of neonatal septicemia to occur and a large percentage, reckoned from 30 to 50 per cent, of the newborn infants died from sepsis. Today we believe this to have been due to umbilical infection. Indeed, in certain sections of the world, Shantung Province, China, for instance, where, because of the intense cold, newborn children are often put in a gunny sack filled with dirt scraped from the street, the neonatal mortality from tetanus transmitted through the cord is 40 to 50 per cent. Listerism has changed this. In the words of Cullen[5] who, in 1916, made a most thorough and excellent study of the umbilicus and its diseases, "Until the advent of asepsis, myriads of children succumbed to umbilical infection within a few days or a few weeks after birth."

Even in the aseptic era in which we are now living neonatal infection through the umbilicus is not unknown. Chamberlain[4] has recently reported a series of seventy-four cases of omphalitis, fifty-one of whom were admitted to the hospital with this as a primary diagnosis. Thirty-three, or 62 per cent, of these were fatal. Bloom[2] this past April reported a neonatal death from tetanus, presumably contracted through the umbilicus. I have seen a case of peritonitis and one of meningitis both proven by autopsy to be colon bacillus infections contracted by the umbilical route. We have all seen cases of unexplained neonatal death which might be traced to the umbilicus.

When we consider the anatomy and physiology of the region you can readily see how easy it is for infection to travel from the navel region. The fact that both the hypogastric arteries and umbilical vein are separated from the abdominal cavity only by a layer of peritoneum and a thin irregular layer of areolar tissue is important. Thus, benign appearing omphalitis or hypogastric arteritis may, by extending only a very short distance, become a fatal peritonitis (Chamberlain).

As the cord is separating, which may take anywhere from six days to two weeks, the hypogastric arteries and umbilical veins are being obliterated. Any variation in the normal physiological actions of any of these may leave open an avenue of infection. Adair,[1] in 20 per cent of the cords of which he made bacteriological studies, found organisms which might, if given a chance, have proven fatal to the newborn infant. A cord which stays on as long as ten days invariably has pathogenic organisms present. There

*Read before the Danville-Pittsylvania Academy of Medicine on January 12, 1937.

From the Obstetric Service, Lincoln Hospital, New York City.

are also frequently granulations present when it does drop off, and Dicks[6] is of the opinion that in cases in which it is slow in dropping off there is a decided weakness at the ring with a consequent tendency to hernia. Maybe many cases of protruding umbilicus which are prevalent are due to this cause. In view of these facts it seems to me that the quicker the cord is gotten rid of the more surety we would have of non-infected infants. But in doing this we must not leave open wounds, for this would defeat our whole purpose as well as leave a danger of hemorrhage.

In 1899 Dickinson, in a paper reviewing the literature, made a study of the treatment of the umbilical cord by the application of surgical principles. He advocated primary amputation of the umbilicus as the means of saving the many children then dying of sepsis which had had its origin in this region. Of course, this method did not gain favor. The objections were too obvious—lack of drainage in cases of infection, danger of concealed hemorrhage, though the chief objection, McPherson told me, was that the mother complained of their children not having any bellybuttons.

Quoting from the textbook of obstetrics most of us used in this section of the country: "The umbilical cord should not be ligated until it has ceased to pulsate, unless there is urgent reason to the contrary. Two ligatures of sterilized bobbin should be placed about it and tightly tied, one about two centimeters from the surface of the abdomen, another about the same distance beyond the first, the cord being then cut between." It seems to me a shorter ligation would be more satisfactory.

Short ligation of the cord is not a new procedure, and Dicks says the ancient Romans employed this method. Mauriceau advocated it. The Japanese have the same custom as some of the Pacific Islanders of cutting the cord very close. Von Reuss[8] is of the opinion that the shorter the cord the less chance there is of infection. Still this does not equal Dickinson's sureness with his surgical removal.

I do not know who should be granted priority in the use of clamps on the cord. Duke, Ziegler, Kane, Willson, Kahn, Martinez, Ryder, and Sztehlo are a few who have devised special instruments for use in ligating the cord. Clamp ligation seems to me to be the most efficient, quickest and safest non-surgical method of approaching the surgical ideal of Dickinson. Ziegler[10] has recently devised a new clamp, not being satisfied with the one he made in 1912. That one has had wide-spread use but to me it has never seemed as satisfactory as an ordinary Kocher hemostat. Also, I never liked the odor that seemed to be always present. His new clamp apparently allows the technique that we have been using with hemostats.

Having observed the use of clamps while on Williamson's service at Bellevue the author determined to run a series of cases using clamps exclusively. By the courtesy of Edwin J. Davin, chief obstetrician at Lincoln Hospital, New York City, from January 15 to June 15, 1933, clamps were used exclusively on all the cases delivered in this hospital. This made a total of 565 cases. All of these were personally supervised.

The technique used is simple. Immediately on delivery of the baby a clamp (we used an ordinary Kocher hemostat, such as is found in any obstetrical kit) is placed as close to the skin margin of the umbilicus as possible and closed tightly. The cord is then milked away from the umbilicus and a second clamp put in place. The cord is cut flush with the upper edge of the first clamp. The hemostat is placed in the long axis of the baby and a supporting band placed around the abdomen. To steady the clamp a cord is placed around the neck, holding it in the long axis of the baby. Eight hours afterwards the clamp is removed. In one case of the series of the 565 slight bleeding occurred. This was because of the hurried, bungling, actions of a junior interne who did not close the jaws of the hemostat tightly. After the removal, if the accoucheur wishes, the parchment like remains may be clipped. An alcohol dressing is then applied. All worry about the cord is ended. Contrast this with the six to ten days meticulous care that is necessary with the ligature method, the odorous sloughing, and the chances of infection that are ever present.

The clamp rapidly produces complete dehydration of the umbilical stump. The desiccation is complete by eight hours. Hemorrhage cannot occur because the walls of the blood vessels are thoroughly fused. To one who has not observed these cases it is surprising how completely the umbilical ring is sealed. Carr, in a personal communication, writes "By the clamp method the chances of infection are materially lessened because of the desiccation and needlessness of care after the first eight hours."

As the study progressed the author was impressed

by the very few cases of icterus neonatorum observed. No statistical studies were made but it seemed as if the incidence was markedly reduced as compared to my experience using ties. Arnold has made the same observation. Carr,[3] in discussing Dunham's paper before the American Pediatric Society in Washington, D. C., says, "In regard to the morbidity of the newborn, I believe that there are fewer cases of jaundice when a clamp is used on the cord than when the cord is tied." He attributes this to the desiccation caused by the crushing action of the forceps.

The etiology of icterus neonatorum is debatable. Franklin[7] enumerates twelve theories. Von Reuss,[9] in his short excellent discussion, believes the manifold nature of the etiological factors makes it evident that the affection may be influenced in its intensity and duration through a variety of toxic infections and constitutional factors. The placental blood, he is of the opinion, comes into consideration only to a slight degree. Franklin's explanation is that icterus neonatorum is the result of the over-loading of the newborn's circulation with degenerated blood cells and hemoglobin of which the spleen and liver of the newborn are not sufficiently mature to dispose. Especially is this true with the premature. To reduce the incidence of icterus neonatorum, he advises tying or clamping the cord immediately. Our observations tend to confirm this theory. Whether our results are due to immediate clamping, thus reducing the number of erythrocytes that must be disintegrated, or whether the lessened opportunity for infection obtained by the hermetically and aseptically sealed stump eliminates the toxic infective element, I am not prepared to say.

Of course, one must be on the lookout for umbilical hernias. It would be disastrous to clamp one of these. However, they should be easily recognized and avoided.

SUMMARY

1. It is recommended that clamps be used for the short ligation of umbilical cords, for the following reasons: a. Needlessness of care after eight hours following delivery; b. Lessened chances of infection and hemorrhage because of the sealing over of the umbilical stump; c. Lessened chances of a weakened umbilical ring.

2. The method has been described.

3. Immediate clamping after birth is advised as a possible aid in the preventing of icterus neonatorum.

REFERENCES

1. Adair, F. L.: Quoted by Chamberlain.
2. Bloom, N.: Tetanus—A Group Case Study, *Va. Med. Monthly*, 63: 38, April, 1936.
3. Carr, W. L.: *Am. J. Dis Child.*, 46: 444, August, 1933.
4. Chamberlain, J. W.: Omphalitis in the Newborn, *J. of Ped.*, 9:215, August, 1936.
5. Cullen, T. S.: The Umbilicus and Its Diseases, Philadelphia, 1916.
6. Dicks, J. F.: Treatment of the Umbilical Cord by Short Ligation and the Use of a Clamp, *Am. J. Obst. and Gynec.*, 10: 706, 1925.
7. Franklin, M.: Clinical Observations on the Etiology of Icterus Neonatorum, *Am. J. Obst. and Gynec.*, 22: 913, 1931.
8. Von Reuss, A.: Pathology of Newborn Period, in Diseases of Children, by Pfaundler, M., and Schlossman, A.: J. B. Lippincott Co., Philadelphia, 1935, Vol. 1, 438.
9. *Idem:* Page 423.
10. Ziegler, C. E.: A New All-Metal Umbilical Cord Clamp, *Am. J. Obst. and Gynec.*, 32: 884, November, 1936.

Masonic Temple.

CLASSIFICATION AND TREATMENT OF ANEMIAS.*

GUY C. RICHARDSON, M. D.,
Bristol, Virginia.

The therapeutic indications of anemias, as well as any other morbid condition, are best met after a satisfactory classification as to the type of the anemia present. Apparently with this in mind, classifications of anemias have been attempted from different phases since the advent of hematology.

*Read as part of a symposium on "Treatment," before the Southwestern Virginia Medical Society at Pulaski, on April 9, 1937.

As in all diseases, a classification based on the etiology of the condition would seem to be the most satisfactory. Such a classification of anemias is, however, impossible, as the etiology of so many anemias is unknown. Anemias were also classified as either primary or secondary. Objections to this classification are numerous, and it is seldom used now. It is too loose in texture, and there are many

primary anemias, all with different etiologies and requiring different treatments. In other words, this tells us nothing of the cause, the condition now present, or the treatment indicated. What help would it be to say that a patient has a primary anemia? Secondary anemia is still used, but the term is ambiguous and without any well-defined meaning.

A third classification then came into vogue. This was a classification according to the pathological principle involved, or resulting from, or due to the anemia, such as (1) anemia due to blood loss, (2) anemia due to blood destruction, or (3) anemia due to lack of blood formation. Although this classification was well founded scientifically, it failed to meet the practical demands, and especially did it fail to help in any manner to indicate the therapeutic measures necessary to combat the anemia. So far, I have reviewed the three old classifications of anemias and shown why they are impractical for general use.

I intend here to present the newer classification of anemias as taught to me by my former teacher, Dr. J. B. McElroy, Chief of Staff at the Memphis General Hospital, and Chief of the Medical Department of the University of Tennessee. This classification is by no means original with Dr. McElroy, and, in fact, I am not aware of the name of the author. Actually, it has gradually developed out of the work of many contributors, and now appears to be the most logical and most frequently used classification.

It is not my purpose to give the history, physical findings, or diagnosis of anemias in this paper. Usually it is obvious that there is an anemia present. The question is, what type of anemia is it?

With the advent of hemoglobin determinations and the idea of the color index, which is the ratio of the hemoglobin to the red blood cells, the next classification, and the one in use today, came gradually into being. Immediately anemias were classified as hyper and hypo-chromic anemia, according to their color index. It was also noted at this time that pernicious anemia was characterized by very large cells, and that chlorosis by cells smaller than normal. An attempt was made to measure for classification the size of the red blood cells as expressed by their diameter. The measurement of the red blood cell diameter, though, is impractical. However, it was noted that the diameter with certain exceptions corresponded with the cell volume. This is easily determined by the packed cell method, a simple laboratory procedure which consists of placing a certain amount of oxalated blood in a graduated centrifuge cylinder. When thoroughly centrifuged, the cells are packed at the bottom of the tube. The height of the cells in relation to the amount of oxalated blood used is referred to as the cell volume.

Of course, the physical findings will give some clue usually as to the type of the anemia. The study of the internal structure and cell size and shape will also help, as in pernicious anemia and sickle cell anemia. But of chief importance is the size of the cells and their hemoglobin content. With these laboratory procedures alone the anemia can be classified without even seeing the patient.

Now a classification of anemias is found which gives a qualitative blood picture, that shows an index of the condition of the marrow, and that also gives definite therapeutic indications for the anemia in question. All anemias can now be classified into one of three groups: (1) microcytic hypochromic anemia, (2) normocytic normochromic anemia, and (3) macrocytic hyperchromic anemia. In other words, this classification is based on the size and color index of the red blood cells. They are either (1) small cells with low hemoglobin content, (2) normal sized cells and normal hemoglobin content, or (3) large cells with high hemoglobin.

According to this method anemias are classified, using as a basis a red cell count, a hemglobin determination, and a cell volume record. The procedure is then a mathematical one. The mean corpuscular volume and the mean corpuscular hemoglobin, or the average cell size and average cell hemoglobin are determined by this formula:

$$\text{MCV} = \frac{\text{Vol RBC (cc. per 1000 cc.)}}{\text{RBC (Millions per cmm.)}} \quad \text{Normal } 87$$

$$\text{MCHbg} = \frac{\text{Hemoglobin (gm./1000 cc.)}}{\text{RBC (Millions per cmm.)}} \quad \text{Normal } 29.5$$

The mean corpuscular hemoglobin concentration serves a further check that the above figures are right. This is determined by the formula:

$$\text{MCHbgC} = \frac{\text{Hemoglobin (gm./100 cc.x100)}}{\text{Vol RBC (cc. /100 cc.)}} \quad \text{Normal } 35$$

The normal figures are MCV 87, MCHbg 29.5, and MCHbgC 35. Variations of 2-3 points from

these are considered normal. Variations of more than 2-3 points place the anemia in either the hyper or hypo, or micro or macro types.

For the benefit of the practitioner who does not have facilities for cell volume determinations at his disposal, or who does not care to spend the time necessary for complete calculations to scientifically determine the type of the anemia, a very simple short calculation can be made. That is with a RBC count and a hemoglobin determination substitute in the MCHbg formula. For example, if the Hbg is 12 gm. per 100 cc. and the RBC is 3 million, then 120 divided by 3 equals 40, or a hyperchromic anemia. The examiner can usually safely assume that since the anemia is hyperchromic it probably is also macrocytic. Therapeusis is then attempted accordingly.

It has been noted that under the microcytic hypochromic type the anemias are found due to chlorosis, achlorhydria chloroanemia, chronic post-hemorrhagic anemia, chronic secondary anemia, carcinoma of the stomach with anemia, chronic meningo-vascular syphilis and occasionally others.

The normochromic normocytic anemias are represented by pellagra, malaria, chronic Bright's disease, tuberculosis, malignant tumors, aplastic anemia, regenerative anemia, and other anemias due to chronic diseases leading to cachexia.

Under the macrocytic hyperchromic class are anemias of the pernicious anemia group, the hemolytic anemias, the leukemias, and occasionally others.

Now, this method of classification is not to be used solely on the severe anemias of bedfast or hospital patients. True its chief value is in this type of patient where almost heroic measures are needed to overcome the anemia, and where often the patient succumbs in spite of even these measures. It is also very applicable to the ambulant patient who comes to your office, in which you find a low grade anemia from any origin and in which after appropriate etiological treatment you desire to build up his blood. A RBC and Hbg determination should be run. When the type anemia has been determined, then you know whether liver or iron is the appropriate remedy. Simply finding a MCHbg of 35-40 does not mean that you have a pernicious anemia but instead that you have an anemia of large cells and hemoglobin which is also a characteristic of pernicious anemia and deserves the same type of treatment, though not so severe.

It is a great advancement that a classification has been devised which, as a general rule, enables us quickly and accurately to determine what we may expect from a given remedy. It is shown from numerous reports that in microcytic anemia iron is the remedy of choice, while in macrocytic anemia liver and stomach bring the best results. The normocytic anemias are the most rebellious to treatment, and here the etiological treatment, together with small doses of arsenic are preferable. However, both liver and iron therapy may be tried with occasional benefits.

Among the remedies now on the market adaptable to the microcytic hypochromic group are: Blaud's pill, tablets and elixirs of iron and ammonium citrate, Parke, Davis' Naferon, Parke, Davis' Kapseals of Iron and Copper, Feesol Tablets or ferrous sulphate, McKesson's Copper and Iron Comp., Merrell's Tamate, Abbott's Cofron Elixir (liver, copper and iron), Arsenoferratose, Upjohn's Accessorone, and iron cacodylate for intravenous administration.

The remedies available for the macrocytic hyperchromic anemias include fresh liver, Lilly's Extralin (liver and stomach comp.), Lilly's Lextron (liver and stomach with iron), Lilly's ampoules of powdered liver extract, Upjohn's Jeculin, Parke, Davis' Liver Concentrate for intramuscular injection; also Tunison's Liver and Sulphur Compound, and Valentine's Liver Extract.

Other therapeutic measures in addition to the above specifics are, of course, necessary. Diet is paramount, and anemic patients should receive at least 2400 calories daily. Blood transfusions are needed in all severe anemias as substitution therapy and as stimulation. Occasionally Thyroxin is needed in cases associated with myxoedema. Recently Bilirubin and Histidin and Tryptophan have been advocated. I am not familiar with their use.

I hope this hasty review of the anemia question, and this method of classification of anemias meets with your approval.

In conclusion, let me again remind you that anemias are now classified in such a manner as to assure best results from the remedies indicated; further, that inorganic iron is indicated in the microcytic hypochromic anemia, that liver and stomach are indicated in the macrocytic hyperchromic anemia, and that normocytic normochromic anemias are most resistant to treatment and respond best after the etiology has been eradicated, general health methods instituted, and then trial of antianemic remedies, with best prospects from the arsenic.

XUM

WHAT IS THE RIGHTFUL PLACE OF GOVERNMENT IN THE ORGANIZATION OF MEDICAL CARE?*

WILLIAM B. PORTER, M. D.,
Richmond, Virginia.

A notable achievement of "American Medicine," in the view of the present writer, is its insistence upon a more careful definition of the term "state medicine". In the superficial debates upon state medicine in medical and in lay circles, the term has been used indiscriminately to refer to state medicine in the Soviet sense—government controlled and government paid doctors—and also to refer to any form, however slight and however indirect, of government functioning in the field. Clearly there can be no intelligent discussion of the subject without a sharper definition of the terms.

We all recognize that the government is already functioning in many and complex ways in the provision of public health services and medical care. The present amount of governmental functioning is not regarded with apprehension and, as the article in last month's Journal indicates, there is, indeed, strong support for increasing present forms of governmental functioning by evolutionary process. It is very much in order for careful students to think through on the difficult question as to whether present tendencies should expand indefinitely or whether governmental authority and functioning should stop at some given point. And what point?

VARYING POLITICAL PHILOSOPHIES LEAD TO DIFFERENT CONCEPTIONS OF GOVERNMENT RESPONSIBILITY IN THE FIELD OF MEDICAL CARE

A good deal of the difference of opinion on the controversial question of "state medicine" comes down to a basic difference in outlook. Many rugged individualists feel that the individual citizen's health will always be his own business, and that government's concern should be only with protecting society from disease. Others feel that there is no practicable way to distinguish between public and private health.

The American Medical Association, at its annual meeting last June, went on record as favoring the general principle "the health of the people is a direct concern of government." This is, of course, a safely general thesis; but if it means anything at all, it can only mean that the government has both a responsibility and a function with reference to the health of the individual citizen.

Among the many philosophies brought forward in "American Medicine" the sharpest issue is between those who believe that government has as great a responsibility for the health as it has for the education of the citizen, and those who deny this and believe that a man's health is his own business and that he should be left free to take as good—or as poor—care of it as he sees fit. An interesting group of writers points out that efforts to divide preventive and curative medicine sharply, do not, in the concrete, work out very well. A tuberculosis expert of acknowledged reputation testifies that—abstractly—he has always held the view that government should *detect* cases of tuberculosis and protect society from those who have it, but hand over to private medical practitioners the treatment and the cure. In actual experience, however, he admits that he find this position often untenable, not only because the individual is often unable to pay for the long period of treatment, but often because of the varying standards of treatment under private auspices. Protecting society and the care of individual cases are inextricably involved. In other words prevention and cure refuse to be sharply separated.

An important group among the contributors to "American Medicine" feel that the doctrine of the rugged individualist—that the individual is responsible for his own health—would be entirely in order if we had an economic system in which all individuals *could* be self-supporting. In our present industrialized society, however, with the continual hazard of unemployment, writers in this group feel, the doctrine of individual responsibility is no longer tenable. A former president of the American College of Physicians puts it thus:

> "Today over fifty per cent of our people live in cities and towns of more than 2,500 population; thus our people have been changed from a position of independence to one of dependence; from being able to

*Sixth and final article in a series of articles reviewing the American Foundation's recently published report "American Medicine: Expert Testimony Out of Court." Published by The American Foundation, 565 Fifth Avenue, New York City, in two volumes. $3.50 the set.

win success from the land through the exercise of their own individual efforts to a place where the obtaining of success is largely taken out of their hands. . . .

"The present agitation for a change in relationship between the medical profession and the public is a part of this transition from rural to urban life; from independence to dependence; and to the general disorganization which the American people are now experiencing in their social, economic, and cultural spheres of life as a result of it."

Medicine, as a member of the Harvard Medical Faculty observes in "American Medicine," must mesh with the gears of general society and economics. *"If the present order of society persists,"* he writes, "I see a need for growth and improvement, but not for radical change." He is not at all sure, however, that the present order of society *will* persist:

"The present administration's policy seems to aim at an elimination of private fortunes and eventually of gifts, which now make possible the medical care of those who cannot pay. . . . When government bounty takes the place of private gifts, this means government control. Therefore whether we like it or not, it seems to me that we are headed for socialized medicine. Probably the extent of this could be modified by an active, broad and youthful minded medical-social leadership, one which was on its toes instead of digging in its heels. . . ."

A number of writers in "American Medicine," who by temperament and preference are clearly individualists, nevertheless feel that a certain amount of "socialization," to use the horrific term, is clearly made necessary by the manner of our social development. A general practitioner in a Massachusetts city, whose letter as a whole clearly shows him to be a confirmed individualist, says:

"A mature nation demands more socialistic features than an immature country. The United States has clearly passed from the latter to the former.

"Unbridled competition and rank individualism build a nation; but it is preserved by sensible cooperation and reasonable collectivism."

Writers of this type hold the practical point of view that regardless of what most of us like or dislike a "certain amount of regimentation" is needed in order to assure certain isolated areas the medical care they need.

The real problem, as certain careful writers now define it, seems to be not whether or not we shall have state medicine, but what degree of state functioning we shall have, in what directions it ought to be increased, and in what directions it ought to be limited. It is in order to review here some of the directions in which extension of government responsibility and government funds is contemplated with equanimity by a number of conservative writers.

EXTENSION OF PUBLIC HEALTH SERVICES, FEDERAL, STATE, AND LOCAL

As already suggested, the development of preventive work and of public health services, federal, state, and local, is considered the most obvious direction for immediate expansion of governmental facilities and governmental funds. There is considerable support for the proposal that the health functions of the federal government should be coordinated in a federal department of health (*not* welfare), headed by a secretary of health who should be a member of the President's cabinet. It is recognized that many of the county agencies are still not competently developed organizations and that the state and local public health services are greatly in need of development and expansion. Some of the state departments are still too closely connected with local political administration to insure the integrity of the health work and the independence of health experts in carrying out policies in the public interest.

Interesting in this connection are the references to the latest report of the surgeon general of the United States Public Health Service, pointing out that as an immediate result of the social security appropriation of eight million dollars allotted to the states for public health work (on the basis of population, special health problems, and economic need) and for the training of public health personnel, 175 new local health organizations were brought into existence within the five months' period covered by the report. Other advances noted as a direct result of the social security appropriations to the several states included strengthening public health nursing, augmentation of laboratory facilities (in twenty-seven states), strengthening of public engineering forces, etc., etc.

EXTENSION OF GOVERNMENT FUNCTIONING IN THE CONTROL OF DISEASES ENDOWED WITH A PUBLIC INTEREST

There is a great deal of support for extending the present public health services to include control, or a degree of control, of disease not now held to be within their scope; but the respective writers have

XUM

varying points of view as to which these diseases should be.

There is a cleavage between those that would confine to the indigent governmental facilities and functioning as to these diseases, and those that are interested in having the government take cognizance rather of the disease itself than of the economic status of the patients suffering from it.

There are, of course, varying points of view as to *which* diseases—in addition to the more or less established mental disease and tuberculosis—should be singled out for more extensive attention on the part of the government. In different parts of the country the emphasis falls in different directions. We are all familiar with the Massachusetts interest in cancer, reflected also in the proposed legislation in Washington last Spring. Syphilis, during the past year, has made exceptional headway in public recognition of it as a disease endowed with a public interest and properly subject to governmental control. Pneumonia in New York and other places has been brought to the fore as a disease needing governmental cooperation and functioning. There is little dispute, of course, about such infectious and contagious diseases as typhoid, leprosy, small pox, malaria, etc. In addition to these, however, a case has been made for other diseases not epidemic, but nevertheless affecting vast numbers of the population and greatly affecting industrial productivity. In this group are the cardiac diseases, arthritis, rheumatism, etc. As the compilers of "American Medicine" query, "When the list of diseases endowed with a public interest is finally developed, how long will it be?"

How far, then, is the government to participate in attempts to control and prevent diseases of this type? *How much* governmental functioning is there to be? An officer of the Association of American Physicians thinks the answer is simply: "Enough to meet the problem effectively." And he continues:

> **"What if government measures should run counter to established practices of organized medicine, encroach upon fields in which practitioners earn a living?**
>
> **"The answer, of course, is that the national health is more important than the maintenance of any economic system in general, and certainly more important than the maintenance of a system under which any single group operates."**

GOVERNMENTAL RESPONSIBILITY FOR THE CARE OF THE INDIGENT SICK

The weight of opinion in "American Medicine" certainly supports the logic and the need of regarding the medical care of the indigent as a charge upon tax funds.

There is rather general recognition that indigent must be understood—so far as the problem of organizing medical care is concerned—as including not merely the legally indigent, but also the "medically indigent," those citizens that manage to pay, with whatever difficulty, in ordinary course, for rent, food and clothing, but who have no margin whatever for medical care, and certainly no way of taking care of "catastrophic" illness involving operation, hospitalization, or long periods of treatment or of convalescence.

A good deal of attention is given to experiments and "plans" for organizing medical care, now in operation in various parts of the country between governmental and local medical organizations or informal groups of physicians. There is general agreement, however, that neither responsibility for the care of the indigent nor the best procedure for giving, paying for, and supervising that care, has been, as yet, worked out in any adequate or nation-wide way.

A very small minority indeed of the contributors to "American Medicine" hold the view that the doctors' care of the indigent sick is a part of a fine old tradition and that virtue will pass from the profession when and if it is abandoned. In general, however, this is considered a sentimentalization out of accord with the times.

One of the outstanding suggestions in connection with the discussion of governmental responsibility in the care of the indigent sick is the proposal that responsibility for the standards of medical care provided in every state to the indigent be lodged in the medical teaching institutions, and that the government, in providing the tax funds, incorporate this provision. A member of the medical staff of several city hospitals, and the medical director of a clinic, FACP, points out:

> **"There is always one nearest medical school. The map of the United States can be cut up into zones and a practical distribution of responsibility be determined."**

This, according to certain views, would best enable government to meet in a thoroughgoing way its two-fold responsibility: to care for the indigent sick,

and to devise ways and means of insuring that that care shall never be inferior in grade. There is clear stress upon the wisdom of associating the universities and teaching hospitals with government as co-operators in the project of organizing on a satisfactory and country-wide base the medical care of the indigent, provided through tax funds.

GOVERNMENT RESPONSIBILITY FOR SUPPLYING MEDICAL CARE IN ISOLATED OR SPARSELY POPULATED COMMUNITIES

Reference has already been made to the special problem produced by the far stretches of the country or by especially desolate or poverty stricken communities. Many writers would lay the problem definitely on the doorstep of the federal government, suggesting an American counterpart of the British Highlands and Islands Service. Correspondents to "American Medicine" write of regions where the population depends upon the top crop and raise the question as to how medical care is to be paid for in years when there is no top crop. The optimist may suggest that in such years the population pay for medical care with its "savings," but those that actually know the life of these communities know that savings are exhausted long before the item of medical care is reached on the list of medical necessities. Aid to special regions seems very generally to be recognized as a responsibility of the federal government. Even here it is felt, however, by those to whom the vision of a paternalistic government is repugnant, that federal funds need not be supplied to such regions on a permanent basis. The state and locality should be asked to do their utmost—after it is carefully ascertained what that utmost could be, and the whole system should look toward developing state and local forces for providing medical care, so far as this can be done. At the present time, however, the federal government can hardly escape responsibility and there is clear demand for financial assistance as well as for the organization and planning that will meet the needs of these "forgotten" areas.

PROPOSALS FOR EXTENDING FACILITIES FOR TAX-SUPPORTED LABORATORIES

Even correspondents that are quite definitely opposed to extension of governmental functioning in other respects, often favor extending the facilities for tax-supported laboratories to practitioners generally, and thereby to their patients at a low unit of cost. Advocates of this proposal believe that this socialization of one of the more mechanical aspects of medical care would meet two obvious problems: (1) It would improve the general practice of medicine by giving medical men who are remote from medical centres the means of practicing modern scientific medicine. This, it is urged, they cannot do unless the scientific aids to diagnosis are easily available; (2) It would meet the problem of the low income patient who certainly cannot afford to invoke the scientific aids to diagnosis, at present prices. Volume of work in laboratories, it is urged, would reduce costs immediately to manageable levels. There is considerable discussion as to whether X-ray service should be included. Most of those in favor of this kind of "socialization" of laboratories would see no reason for omitting X-ray.

Proposals for extending the facilities for tax-supported laboratories are safeguarded by insistence that laboratory facilities shall be "extended only when they are good." Many of the laboratories in the country, it is bluntly remarked, are not yet doing sufficiently good or dependable work to justify extension of their services. Whatever the problem, as one apt writer puts it, it is not to be solved by making mediocre medical care—or laboratory service—available to a greater number of people. There is frequent stress also upon the fact that it will be quite useless to make laboratory services generally available unless there is some assurance that the practitioners availing themselves of the services are able to make accurate use of them. There is no use in having the tests unless accurate interpretation of them is also assured.

RELATION OF GOVERNMENT TO MEDICAL EDUCATION

There is not, in "American Medicine" extensive discussion of tax-supported education, but more than a few writers make the point that the degree to which medical education is government supported at the present time—in state universities—is far from recognized. Without hostility to private medical schools with large endowments, but with reference to the changing economic situation and the passing of large fortunes and therefore of large philanthropies, a number of writers feel that the medical school *par excellence* of the future will be in the state universities. There is no claim that the state university

XUM

medical schools now measure up to the highest standards, but there is a good deal of prophecy that as the need for these schools becomes more articulate, the ways of maintaining them and of raising their educational performance to the highest grade will naturally follow.

TAX-SUPPORTED RESEARCH

A urologist in up-state New York expresses a widely held view:

> "Our greatest foundations for medical research have been largely dependent on private philanthropy. The responsibility for adequate medical research could properly be assumed by the government."

That the passing of great fortunes means that research will be supported by public funds or not at all is conveyed in clear terms in some letters:

> "New knowledge is a desperate need. Private philanthropy has been paying the bill. When this goose is killed, will a public bureau lay the golden eggs?"

In all the suggestions and proposals that government funds should be more largely available for research—notably in the United State Public Health Service, in state health departments and in research units in the state universities—the animating motive is recognition that attack on disease and continuous search for its causes must go *pari passu*. Favorable comment is made upon the expansion of the federal government's research activities through the special appropriation, for the first year, of $2,000,000 for reasearch under the Social Security Act.

The new result of the comment in these letters on research as undertaken by all types of agencies in this country is certainly that it is insufficient, and uneven in quality, that too much of the support for it comes from private sources, and that so long as it is in large degree supported by "philanthropy" it can never be related as it should be either to the work of the public health organization in the "preventive" field or to the practice of curative and preventive medicine by private practitioners, in hospitals, etc.

The point is made that if government supported research were related to the guidance of medical practice as a whole, if new approaches to the treatment and cure of disease were more generally conveyable to medical men throughout the country, more readily applicable to the need of practitioners in all states and communities, the quality of medical service could not fail to be progressively improved. There is further recognition of the point that the vitality of medical teaching inheres in the presence of genuine research in an institution, and that medical schools generally have now insufficient funds to maintain it.

If the American Foundation's report had done nothing else it would be significant for outlining a system of medical practice in which the government and private practice may function *cooperatively*. In this connection a few writers mention Sweden as the outstanding example of the way in which government may "inject itself into the matter of medical care and yet continue to leave medical practice in the hands of the doctors."

Correspondence

Elixir of Sulfanilamide.

Richmond, Va.

TO THE EDITOR:

As horrible as is the sickening holocaust of fatalities that is following the exploitation of our newest nostrum, Elixir of Sulfanilamide, it should not fail to serve an important purpose. In awakening public and professional opinion to renewed insistence that real teeth be put into our state and federal laws, these lives may not have been needlessly sacrificed. When laws, intended to prevent the indiscriminate foisting on an avid public of chemicals whose harmlessness has not been established, fail so utterly of their purpose as to permit the present situation, it is obvious that more stringent ones are necessary.

The marketing of such a mixture is reprehensible in three respects: authorities agree that the use of sulfanilamide should be restricted to selected cases kept under careful surveillance; because of the absence of any scientific evidence establishing its harmlessness beyond doubt, it is stated that the use of diethylene glycol is not permitted in food products; and the possibility of a deleterious action of the combination seems entirely to have been ignored.

While numerous publications have pointed to sulfanilamide as a distinctly valuable therapeutic agent, they have described the frequent occurrence of toxic symptoms as well. It must be confessed that there is a regrettable paucity of data on the toxicity of the substance based on exhaustive animal experimentation.

Hitherto, human exposure to diethylene glycol has been largely through its use as a hygroscopic agent in some brands of tobacco and cigarettes. Animal experiments indicate that the substance has a relatively low toxicity, and to the extent that these experiments may be taken to apply to human consumption, it is difficult to believe that the entire blame should be assigned to diethylene glycol. It is not inconceivable, however, that individual hypersensitivity, and greater human susceptibility could be an important factor in the production of this apparent discrepancy.

Recognizing the possibility of synergism of some type or another, it is futile with so little available data to advance any hypothesis covering the joint action of the two substances, or the mechanism by which one might reinforce the other.

H. B. HAAG, M. D.,
Department of Pharmacology,
Medical College of Virginia.

Public Health Statistics

I. C. RIGGIN, M. D.,
State Health Commissioner of Virginia.

The report of the State Health Department's bureau of communicable diseases, as compiled for the month of September, shows the following cases compared with the same month in 1936.

	1937	*1936*
Typhoid and Paratyphoid	62	103
Diphtheria	122	114
Scarlet Fever	55	58
Measles	42	23
Meningitis	5	11
Poliomyelitis	13	16
Rocky Mountain Spotted Fever	2	1
Typhus Fever	0	0
Undulant Fever	2	7
Tularaemia	0	1
Smallpox	1	0

LABORATORY SERVICE

Since 1919, more than half of the diagnostic specimens submitted to the department's laboratories have been blood for serodiagnostic tests for syphilis. While some years have shown a more rapid increase in other types of work, the growing demand for serodiagnostic tests has been constant. For sometime, this demand has been pressing because of the publicity given to the venereal disease problem and the Department's active control program.

In order to conduct efficiently the routine laboratory work, additional personnel obtained through federal funds has been required for many months. Recently, an addition of four members to the regular laboratory staff was anounced.

As an aid in the earlier diagnosis of syphilis, the laboratory now includes examinations of fluid from suspected syphilitic lesions by darkfield and stained preparations. Since the first of May, 1937, one hundred and fifty specimens of chancre fluid also have been examined; in 30 per cent of these the *Treponemum pallidum* was found.

During the past year the department's laboratories participated in the evaluation studies of serodiagnostic tests for syphilis made by the United States Public Health Service. A similar study will be made again this year.

SANITATION

The department has just published a new sanitation bulletin. A more permanent type of privy construction is described than in former publications on this subject. Specifications, while identical with those considered standard for years, now call for a concrete floor and footing instead of wood.

The department indicates that the new "concrete slab" will appeal to home owners because of the cleanliness and permanency factors; and further, that "any but concrete slab construction for use at public or semi-public places should be considered sub-standard."

TUBERCULOSIS CONTROL ACTIVITIES

During the year ending June 1, 1937, patients who visited the tuberculosis clinics for diagnostic service totaled 7,181. This represented an increase of 1,829 over the former twelve months. During the same period, 50,463 nursing visits were made to tuberculosis patients, suspects and contacts, as compared to 29,256 for the previous year. Two hundred and fifteen chest clinics and forty-eight tuberculin X-ray clinics were conducted, which also represented increased activity.

STANDARDS FOR PERSONNEL

Of the thirty-two physicians in the department's bureau of rural health and in local departments,

XUM

eleven have had post-graduate training in public health and seven have had at least a full year's course. In addition, funds allotted through the U. S. Public Health Service made possible a year's course of instruction at Johns Hopkins School of Hygiene and Public Health for four departmental physicians. At the present time four more medical directors of local departments are receiving similar instruction at Johns Hopkins.

Four sanitation officers also received a four months' course in public health at the University of North Carolina School of Public Health.

The standard of the nursing personnel has been so raised as to prohibit the employment of new nurses unless they have had at least one year of post-graduate instruction.

"HASHISH" CIGARETTES

Continued investigation throughout the nation by the U. S. Bureau of Narcotic Control indicates that in some sections of the country the traffic in marihuana cigarettes is being conducted on an increasing scale.

This insidious and insanity-producing weed, when prepared for smoking, is designated by the initiated as "reefers" or "muggles." In some localities the distribution seems to be in the hands of a single agent who sends out salesmen to peddle his wares on the streets and in resorts frequented by those seeking thrills. The federal government has discovered that high school children and other young people sometimes are marked for victims by traffickers.

The Bureau of Narcotic Control recently indicated to a departmental representative that these illicit activities do not as yet represent a problem in Virginia though at least one neighboring State has been invaded.

SHELLFISH SANATATION

Under the authority of the Department's regulations, suggestions for the sanitary reconditioning of shellfish plants were forwarded in July to proprietors of shucking and packing establishments. The communication indicated that until all sanitary requirements were fully complied with, the certificate of inspection annually issued by the Department could not be renewed.

To date, satisfactory replies have been received from approximately one hundred of the one hundred and sixty-eight shucking and packing operators.

New Members

Doctors who have become members of the Medical Society of Virginia since the list published in the April, 1937, issue of the MONTHLY are:

Dr. Stephen John Beeken, Christiansburg.
Dr. Lyle Steele Booker, Waynesboro.
Dr. Ashby C. Byers, Harrisonburg.
Dr. Sheldon David Carey, Christiansburg.
Dr. David Alexander Christian, Appomattox.
Dr. Franklin Harry Cohen, Norfolk.
Dr. Meyer Cohen, Yorktown.
Dr. George Cooper, Jr., Charlottesville.
Dr. Arthur Blackwell Cosby, Big Island.
Dr. James Dean Creger, St. Paul.
Dr. Early Beauregard Dovell, Unionville.
Dr. William Brown Dudley, Martinsville.
Dr. Glassell Slaughter Fitz-Hugh, Charlottesville.
Dr. H. Aurelia Gill, Richmond.
Dr. Channing Glenn, Petersburg.
Dr. Snowden Cowman Hall, Jr., Danville.
Dr. Walter Paul Hammer, Arlington.
Dr. John Edward Hamner, Petersburg.
Dr. Rosser Noland Hillsman, Jr., Amherst.
Dr. George Wesley Hooker, Roanoke.
Dr. Edward Lee Hopewell, Strasburg.
Dr. Ira Thomas Hornbarger, Hot Springs.
Dr. Joseph William Houck, Lynchburg.
Dr. Harold Maurice Jackson, Purcellville.
Dr. James Thomas Jackson, Leesburg.
Dr. John McIver Jackson, Front Royal.
Dr. Jacob Garry Jantz, Bedford.
Dr. Charles Emmett Jenkins, Alexandria.
Dr. Ellsworth Johnson, Winchester.
Dr. Joseph Bernard Jones, Culpeper.
Dr. Edward Butts Kilby, Toano.
Dr. Edward Linden Kinney, Charlottesville.
Dr. Thomas Cyprian Lawford, Hilton Village.
Dr. Henry Lee, Roanoke.
Dr. Allen Southall Lloyd, Norfolk.
Dr. Eugene Andrew MacCornack, Lynchburg.
Dr. John Robert Massie, Jr., Norton.
Dr. Thomas Stanley Meade, Richmond.
Dr. Dan Oscar Nichols, Charlottesville.
Dr. Walter Maynard Otey, Roanoke.
Dr. Thomas Edgar Painter, Williamsburg.
Dr. William Henry Parker, Charlottesville.
Dr. Morgan B. Raiford, Franklin.
Dr. Carol Margaret Rice, Sweet Briar.
Dr. Harold Lee Riley, Jr., Lynchburg
Dr. Dennis Hardesty Robinson, Bedford
Dr. Elizabeth Lewis Saunders, Blacksburg.
Dr. Mildred Esther Scott, Fredericksburg.
Dr. Reynol Clinton Siersema, Richmond.

XUM

Dr. Luther Campbell Spengler, Jr., Roanoke.
Dr. Malcolm Samuel Stinnett, Buchanan.
Dr. Harry Benjamin Stone, Jr., Roanoke.
Dr. Francis Nicholson Taylor, Petersburg.
Dr. Girard Vaden Thompson, Chatham.
Dr. Walter Forrest Thornton, Lynchburg.
Dr. William Roberts Tyson, Norfolk.
Dr. Arthur LaGrange Van Name, Jr., Center Cross.
Dr. Walter Emerson Vermilya, Big Rock.
Dr. Rowland Haldane Walker, Martinsville.
Dr. Charles Weston Warren, Upperville.
Dr. Chalmers Wills, Victoria.
Dr. Hudson Mason Wingfield, Sandston.
Dr. William M. Winn, Jr., Clarksville.
Dr. Fletcher Johnston Wright, Jr., Petersburg.
Dr. George A. Wright, Marion.
Dr. Munford Radford Yates, Petersburg.

Woman's Auxiliary to the Medical Society of Virginia

President—MRS. JAMES B. STONE, 15 Maxwell Road, Richmond.
President-Elect—MRS. HAWES CAMPBELL, Venter.
Corresponding Secretary—MRS. LAWRENCE O. SNEAD, 5307 New Kent Road, Richmond.
Recording Secretary—MRS. JAMES K. HALL, 3011 Seminary Avenue, Richmond.
Acting Treasurer—MRS. REUBEN F. SIMMS, 2502 Hawthorne Avenue, Richmond.
Chairman of Publicity—MRS. FRED J. WAMPLER, 4103 Forest Hill Avenue, Richmond.

The Fifteenth Annual Session.

The Roanoke meeting is a thing of the past but, to those who attended, it will be an occasion long to be remembered. The hospitality, thoughtfulness and consideration shown the Auxiliary by the Roanoke Academy of Medicine and the Roanoke doctors' wives made all feel welcome and at home. The Auxiliary luncheon at the Roanoke Country Club and the banquent and floor show for the doctors and their wives were both enjoyable occasions and showed much thoughtfulness in the planning. Golf tournaments for the men and a drive to V. P. I., with lunch there for the ladies, were also planned by the Roanoke Committee.

There is no auxiliary in Roanoke, but no one would ever have guessed it from the welcome received, and it is to be hoped that the Roanoke doctors' wives caught the spirit from the splendid address of the National President, Mrs. Augustus Kech, and will before long organize an auxiliary.

The reports from the standing committees, special committees, and county presidents showed that educational programs, philanthropic and social activities had played an important part in auxiliary life, and these reports were very encouraging.

Much interest has been exhibited in the Tuberculosis Sanitarium Bed, and this project will be continued.

The Auxiliary is very proud to have adopted a Handbook for County Auxiliaries and a new Constitution and By-Laws. For these, the Auxiliary is deeply indebted to the Revisions Committee—Mrs. William Lett Harris, Mrs. Joseph Bear, and Mrs. Fletcher J. Wright—who worked hard and faithfully to compile a very much needed and very comprehensive Handbook and Constitution. Both will be of inestimable value in the organization of new auxiliaries.

Dr. Wright Clarkson of Petersburg, gave an interesting talk on cancer control and Mrs. V. E. Holcombe, National Program Chairman, many helpful suggestions on Program Building.

A trophy, a silver vase, the gift of the outgoing and incoming Presidents, was presented by the latter, Mrs. James B. Stone, to the Accomac-Northampton Auxiliary, who won it on the best per cent of attendance at this meeting. Hereafter, it will be awarded on the best per cent of increase in membership, and will be kept by the winning Auxiliary until the next State Convention. The high spot of the day was an address by the National President, Mrs. Augustus Kech, who spoke on the relationship of the auxiliary to the physicians and why. She spoke at the luncheon, which was well attended, and her address was enthusiastically received.

The Auxiliary was honored to have the following as its other luncheon guests: Mrs. V. E. Holcombe of Charleston, W. Va.; Dr. George F. Simpson, President-elect of the Medical Society of Virginia who spoke on Socialized Medicine; Dr. H. H. Wescott, President of the Roanoke Academy of Medicine, and Mrs. Wescott; Dr. Fletcher J. Wright, Chairman of the Advisory Council; Dr. P. St. L. Moncure, past State President and member of the Advisory Council, and Mrs. Moncure. Greetings from these physicians were much enjoyed.

XUM

After the luncheon, the installation service for the incoming officers was conducted by Mrs. Fletcher J. Wright, in the absence of the Parliamentarian, Mrs. M. N. King. The incoming officers are: Mrs. James B. Stone of Richmond, president; Mrs. Hawes Campbell of Venter, president-elect; Mrs. Meade Edmunds of Petersburg, Mrs. H. L. Denoon of Nassawadox, Mrs. Floyd Dormire of Virginia Beach, and Mrs. T. Elmore Jones of Portsmouth, vice-presidents; Mrs. Reuben F. Simms of Richmond, acting treasurer; Mrs. J. K. Hall of Richmond, recording secretary; Mrs. Lawrence O. Snead of Richmond, corresponding secretary; Mrs. Southgate Leigh of Norfolk, historian; and Mrs. M. N. King of Norfolk, parliamentarian.

The gavel was presented to the new president, Mrs. James B. Stone, who graciously accepted it, pledging her best efforts to the Auxiliary and making an earnest appeal for the cooperation and help of all members.

RUTH PENDLETON HARRISON WILSON,
Retiring President.

Radio Broadcasts.

The American Medical Association and the National Broadcasting Company present each week over the Red Network a program of health messages. These messages give a wealth of information along health lines. Tune in each Wednesday from 2:00 to 2:30 P. M., and avail yourself of the opportunity to hear these splendid talks. The list of programs for November is as follows:

November 3rd—Striving for Better Bodies. So-called physical defects; their recognition; what can be done about them.

November 10th—Playing for Fun. Health values and hazards in sports and recreation, including football.

November 17th—Fresh Air, Fresh Clothes and Fresh Skin. Ventilation; clothing; bathing.

November 24th—Rest, Relaxation, Refreshment. All work and no play, or all play and no rest—bad for health.

The Woman's Auxiliary to the Southern Medical Association

Will hold its annual meeting in New Orleans, La., November 30th through December 3rd. Mrs. Meade Edmunds of Petersburg, and Mrs. F. O. Plunkett of Lynchburg have been appointed as delegates to this meeting. It is hoped that many of our members in the State are planning to visit this fascinating Southern city at this time, and make our representation at the meeting a large one.

Truth About Medicine

In addition to the articles previously enumerated, the following have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association:

Eli Lilly & Co.

Sulfanilamide—Lilly.

Sulfanilamide Tablets, 5 grains.

E. R. Squibb & Sons.

Antipneumococcic Serum, Type I, 10,000 units.

Antipneumococcic Serum, Type I, 20,000 units.

New and Nonofficial Remedies

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Ampules Cebione Sodium Solution, 2.1 cc.—Each cubic centimeter represents 0.05 Gm. cebione (New and Nonofficial Remedies, 1937, p. 457) and possesses a vitamin C potency equivalent to 1,000 international units. Merck & Co., Inc., Rahway, N. J.

Tablets Cebione, 0.025 Gm.—Each tablet represents 0.025 Gm. cebione (New and Nonofficial Remedies, 1937, p. 457). Merck & Co., Inc., Rahway, N. J. (*J. A. M. A.*, July 31, 1937, p. 358.)

Tablets Digitalis—Squibb, ½ cat unit.—Each tablet represents ½ cat unit (approximately ¾ grain) digitalis (New and Nonofficial Remedies, 1937, p. 180). E. R. Squibb & Sons, New York.

Capsules Powdered Digitalis—Squibb, 1½ grains.—Each capsule represents 1.0-1.1 U.S.P. XI units digitalis (New and Nonofficial Remedies, 1937, p. 180). E. R. Squibb & Sons, New York.

Vinethene.—Vinethenum.—Vinyl Ether for Anesthesia—Merck.—CH_2:CHOCH:CH_2 with the addition of 3.5 per cent absolute alcohol and 0.01 per cent of phenyl-a-naphthylamine. Vinethene is inflammable and deteriorates on exposure. It is not to be used for anesthesia if the original container has been opened longer than twenty-four hours. Vinethene is an inhalation anesthetic to be used for short anesthesias. It differs from ether, U.S.P., in the rapidity of its action. It is easy to pass from the level of surgical anesthesia to dangerous overdosage; therefore the importance of constant, close observation of the patient cannot be over-emphasized. Properly watched, this rapid action is of advantage in short anesthesias, as is the prompt recovery which follows administration of the drug. Vinethene is intended primarly for use in minor surgical operations of short duration, and in dentistry. It has also been proposed as an induction anesthetic. It has been rather extensively used during labor and during postpartum obstetric procedures. It has, however, one major disadvantage when used in this branch of medicine—its rapid action has practically precluded its use for obtaining obstetric analgesia. Under no circumstances should the anesthetic be pushed. It would seem at the present time that the open drop method of administration is preferable, for the short anesthesias. Merck & Co., Inc., New York.

XUM

Accepted Devices for Physical Therapy

The following apparatus has been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

Aloe Portable Short Wave Diatherm.—This unit is designed for medical and surgical use. It was operated under actual clinical conditions and was found to render satisfactory service. A. S. Aloe Company, St. Louis, Mo. (*J. A. M. A.*, August 21, 1937, p. 585.)

Propaganda for Reform

Examination of Certain American Brands of Sulfanilamide.—A number of firms have submitted brands of sulfanilamide for the consideration of the Council on Pharmacy and Chemistry with a view to acceptance and inclusion in New and Nonofficial Remedies. The Council in turn asked the A. M. A. Chemical Laboratory to examine the product and elaborate standards for identity and purity. At the time of this report the following firms had presented brands of sulfanilamide to the Council: the Calco Chemical Company, Inc., Lederle Laboratories, Inc., Eli Lilly & Company, Merck & Co., Inc., Parke, Davis & Company, E. R. Squibb & Sons, and Winthrop Chemical Company, Inc. (under the name of Prontylin). In all cases the product was a white, crystalline substance without perceptible odor and possessing a slightly bitter taste. The index of refraction of the crystalline product was found to be approximately 1.60. The preparations were found to be of approximately the same grade of purity, ranging from 99.5 to 100 per cent. Based in part on the laboratory's examination and in part on the material supplied by manufacturers tests and standards have been evolved for sulfanilamide. From the structure of the product, it will be noted that it is an "aniline derivative" and as such may not be without the harmful characteristics of aniline in producing a change in the hemoglobin molecule (methemoglobinemia). It also contains a sulfamido group; reports have already appeared in the literature of the occurrence of sulfhemoglobinemia arising from too intensive or too prolonged use. (*J. A. M. A.*, July 31, 1937, p. 358.)

Book Announcements

Medical Urology. By IRVIN S. KOLL, B. S., M. D., F. A. C. S., Attending Urologist, Michael Reese Hospital. St. Louis. The C. V. Mosby Company. 1937. Octavo of 431 pages. With 92 Text Illustrations and 6 Color Plates. Color. Price $5.00.

This book was written with the idea of being "of practical value to the general physician and an aid to the medical students". For the most part it can be recommended for this need.

The first two sections constitute about one-half of the book and deal with diseases of the urethra and genitalia. Following this in order are diseases of the kidney, ureter and bladder, a section on sexual impotence, and in conclusion a chapter on differential diagnosis.

Improvement on the X-ray illustrations could be made and the treatment of urinary tract infections should be covered more thoroughly. In spite of the author's lack of enthusiasm for the phenolsulphonphthalein test for renal function, the correct technique and the proper interpretation should be given. The recent advent of sulfanilamide in the treatment of gonorrhea necessitates an early revision.

MARSHALL P. GORDON, M. D.

Diabetes. A Modern Manual. By ANTHONY M. SINDONI, JR., M. D., Chief of the Diseases of Metabolism of the St. Agnes Hospital; Chief Consultant in the Diseases of Metabolism at the Oncologic Hospital; Physician to the Medical Dispensary of Presbyterian Hospital, Philadelphia. Introduction by MORRIS FISHBEIN, M. D., Editor, *Journal of the American Medical Association*. With a Foreword by GEORGE MORRIS PIERSOL, B. S., M. D., Professor Medicine, Graduate School of Medicine, University of Pennsylvania; etc. New York. Whittlesey House. McGraw-Hill Book Company, Inc. 1937. Octavo of xxiii-240 pages.

This diabetic manual has a good arrangement of material and a nice interpretation of certain medical terms not usually understood by the patient. However, there are a number of rules of doubtful wisdom, such as directing the coma patient to give insulin hourly until the doctor arrives. Such rules as this may lead to severe insulin reactions or even death if the diagnosis is not correct.

WILLIAM R. JORDAN, M. D.

A Textbook of Surgical Nursing. By HENRY S. BROOKES, JR., M. D., Instructor in Clinical Surgery, Washington University School of Medicine; Surgeon to the Out-Patients, Washington University Dispensary; Assistant Surgeon to Barnes Hospital. St. Louis. The C. V. Mosby Company. 1937. Octavo of 636 pages. With 233 Illustrations. Cloth. Price $3.50.

Aims: 1. To present the various surgical conditions and methods of surgical and nursing care; 2. To coordinate the activities of the nurse and surgeon to the advantage of the patient; 3. To facilitate the care of the patient by a knowledge of the conditions and their requirements.

The large number of illustrations may aid in emphasizing the conditions studied and assist in the interpretation of the text. The chapter on "Medico-legal Points" may prove very valuable to students unfamiliar with this information. The Glossary, which is placed at the end of the book, gives easy access to definitions of the various terms. The Index is detailed to permit easier and quicker location of the subject desired.

XUM

As for the surgical side of this textbook, the subject-matter seems too detailed. Time would not be available to teach all the material and it all seems important. The instructor would have to spend time in selecting which material to present to the class. The material seems to be arranged in the best order for reference instead of for teaching. The care of the surgical patient is interrupted at frequent intervals by chapters on "The Operating Room," "Special Procedures," "Anesthesia," "First Aid," etc. All of these chapters contain invaluable information but are repetition of some of the other courses in Nursing Education.

I would not recommend this book as a teaching text for surgical nursing, due to the detailed information and an excess amount of repetition of subject-matter, which has already been taught the student. However, I do think that this book might be used to a great advantage, as a reference in the teaching of Surgery, Operating Room Technique and Elementary Procedures in Nursing Education.

FAY F. THOMAS, R. N.

The Laboratory Diagnosis of Syphilis. The Theory, Technic, and Clinical Interpretation of the Wassermann and Flocculation Tests With Serum and Spinal Fluid. By HARRY EAGLE, M. D., Passed Assistant Surgeon, U. S. Public Health Service; Lecturer in Medicine, Johns Hopkins University Medical School; etc. With Foreword by J. Earle Moore, M. D., Associate in Medicine, Johns Hopkins University; etc. St. Louis. The C. V. Mosby Company. 1937. Octavo of 440 pages. Illustrated. Cloth. Price $5.00.

The book is a concise and authoritative presentation of the problem of the serological diagnosis of syphilis. From an enormous and conflicting literature and a wide experience, both in practical serology and research, Dr. Eagle's work is an exceedingly able evaluation of the theory, technique and clinical interpretation of the Wassermann and flocculation tests.

His discussion of the theory and mechanism of the tests and his description of the sources of error in carrying out these tests are of primary interest to the serologist in the smaller laboratory. Approved techniques for the Wassermann and flocculation tests are adequately described. The work is an authorative guide for the serologist which should go far in bringing about improvement and standardization in technical procedure.

The physician who takes the time to read this book will be well repaid. Not only will he be more able to evaluate the accuracy of the serology as done by the particular laboratory reporting to him, but also his clearer conception of the clinical interpretation of serological tests will aid him immensely in the diagnosis and treatment of syphilis.

Dr. Eagle's contribution should be a part of every serological laboratory and should be read by every physician treating syphilis.

J. H. SCHERER, M. D.

Obstetric and Gynecologic Nursing. By FREDERICK H. FALLS, M. S., M. D., F. A. C. S., Professor of Obstetrics and Gynecology, University of Illinois, College of Medicine; etc. And JANE R. McLAUGHLIN, B. A., R. N., Supervisor of the Department of Obstetrics and Gynecology, Research and Educational Hospital, University of Illinois, College of Medicine; etc. Illustrations by Charlotte S. Holt. St. Louis. The C. V. Mosby Company. 1937. Octavo of 492 pages. Cloth. Price $3.00.

This text, according to its author, was written to aid the nurse in an intelligent comprehension of the medical problems underlying the care of obstetric and gynecologic patients. The aim is followed throughout the text. The first part of the book deals with obstetrics and the second part with gynecology.

The book is of convenient size with an attractive durable cover. The type being larger than average size is very easily read, which is an asset to any book.

For the obstetric side of the text, the subject-matter for present-day trends in nursing education, does not seem to be well-organized. The care of a normal pregnancy in its completion is interrupted by the pathologic conditions associated with pregnancy. In other words, the student nurse does not get a complete picture of a normal pregnancy including both the mother and the baby before having to learn the abnormal.

Each topic is discussed in sufficient detail in the chapters for the teaching of student nurses. The hand-drawn illustrations are well correlated with the written material of both obstetrics and gynecology. The glossary, which has been placed at the end of the book, should be a great help to students unfamiliar with these new terms.

This book can be used as a reference in both the teaching of obstetrics and gynecology. Due to the arrangement of the obstetric division of the text, I would not recommend it as a teaching text. However, for the teaching of gynecology it might be considered.

ALICE K. LACY, R. N.

XUM

Virginia Medical Monthly

Founded by LANDON B. EDWARDS, M. D., April, 1874
Owned by MEDICAL SOCIETY OF VIRGINIA since November, 1919
WYNDHAM B. BLANTON, M. D., *Editor*
AGNES V. EDWARDS, Richmond, *Business Manager*

PUBLICATION COMMITTEE
WYNDHAM B. BLANTON, M. D., Richmond, *Chairman*
H. B. MULHOLLAND, M. D., University H. A. TABB, M. D., Gloucester

All correspondence regarding editorial matters, articles, advertisements, subscription rates, etc., should be addressed to the Monthly, 1200 East Clay Street, Richmond, Va.

This journal is not responsible for the opinions and statements of its contributors.

All advertisements are received subject to the approval of the Council on Pharmacy and Chemistry of the American Medical Association.

Subscription Price: $2.00 per annum in advance. Single Copies 25c.

VOLUME 64 NOVEMBER, 1937 No. 8

Editorial

The President.

George Franklin Simpson, D. D. S., M. D., was born in Loudoun County, Virginia, June 19, 1869, and after receiving such education as the public schools gave in the county, accepted a position in Washington, D. C., to afford him better facilities for education. In June, 1900, he was graduated from National University as a D. D. S. and the following year was graduated from the same institution as Doctor of Medicine. After practicing medicine for seven years in the District of Columbia, during a part of which time he was connected with the Health Department of the District of Columbia, in August, 1908, he came to Loudoun County, Virginia, to practice his profession and settled in Hillsboro, Virginia; later moving to Purcellville, Virginia.

Dr. Simpson has received many honors during his career. He is a Knight Templar; during the World War he was chairman of the Medical Advisory Board of Loudoun County; in Masonry he is a past master and a past District Deputy Grand Master of the Blue Lodge; belongs to Leesburg Chapter No. 55, R. A. M.; Piedmont Commandry, K. T., of Plains, Virginia; and Acca Temple, A. A. O. N. M. S., Virginia; he is a charter member of the Loudoun Golf and Country Club and American Medical Association. He is a local surgeon for the Washington and Old Dominion Railroad. In politics he is a Democrat having served as Chairman of the Loudoun County Democratic Committee. At present he is a member of the Board of Directors and Vice-President of the Loudoun County Hospital. Twice President of the Loudoun County Medical Society, a former president of the Virginia, District of Columbia, and Maryland Medical Society and a former Vice-President of the Medical Society of Virginia, his election to the presidency of the Medical Society of Virginia has followed as a logical sequence.

JOHN ALDRIDGE GIBSON.

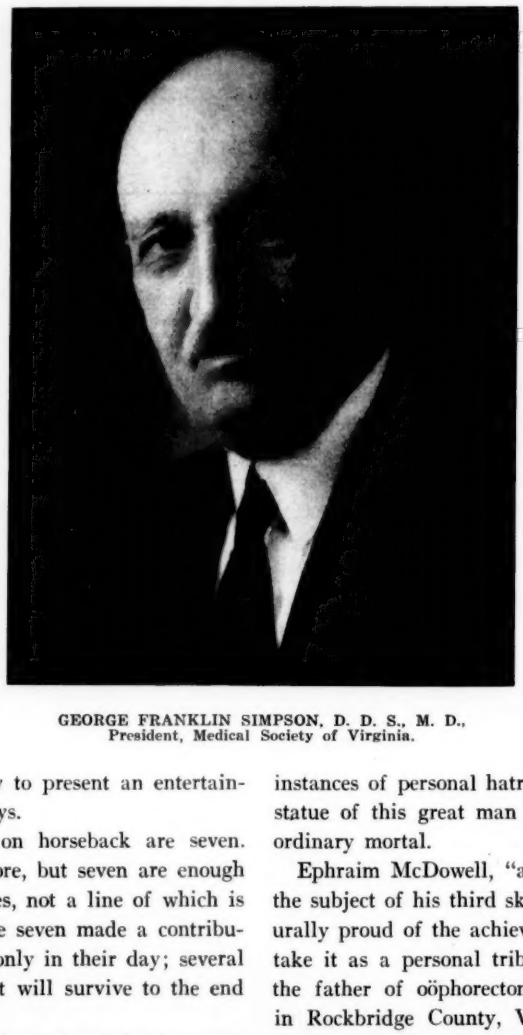
The Best Yet.

The meeting of the Medical Society of Virginia in Roanoke, October 12, 13 and 14, was by acclamation one of the most outstanding ever enjoyed by the medical profession of Virginia. It was marked by good papers read and discussed with due regard to prescribed time limits. Old-timers must have missed the customary foregathering of the fellows in the hotel lobbies. The truth is, most of those who attended the meeting were busy with the scientific program. Two innovations achieved tremendous success—the round tables were popular beyond expectation and the Wednesday night banquet brought together a concourse of doctors and doctors' wives inspiring to behold. The Society is under a lasting debt of gratitude to the Roanoke Academy of Medicine and its efficient Committee on Arrangements.

XUM

They Are Seven.

The author of *Doctors on Horseback,* James Flexner, is the son of a distinguished American physician. His mother was a Thomas, of Baltimore, and on this side of the house also family traditions led to the healing art. With such a background it is understandable why the writer, though a newspaper man and a layman, has chosen to write about medicine. In preparation for this work he has added to the familial and inherited medical tradition the advantages of a Harvard education, newspaper reporting in New York City, a London residence with frequent contributions to the British press and finally, on returning to America, adventures in fiction and biographical writing.



GEORGE FRANKLIN SIMPSON, D. D. S., M. D.,
President, Medical Society of Virginia.

Doctors on Horseback will tell most doctors more than they ever knew before about a group of pioneer American physicians whom they hold among the foremost makers of what has come to be regarded as distinctly American medicine. It will tell the average layman more than that, for it will introduce him to a few medical figures of national importance. For both doctor and layman *Doctors on Horseback* will prove good reading for the author knows how to present an entertaining account of pioneer days.

Mr. Flexner's doctors on horseback are seven. They might have been more, but seven are enough to fill a book of 350 pages, not a line of which is dull reading. Each of the seven made a contribution. Several were great only in their day; several have earned greatness that will survive to the end of time.

The author begins his biographical sketches with an account of John Morgan of Philadelphia, "one of the ablest students ever seen in Edinburgh", organizer of the first American medical school, "the only doctor in the colony who refused surgical cases and did not dispense his own drugs" and therefore the first to realize the necessity for specialization in medicine. In spite of his brilliant beginning Morgan ends as a disillusioned recluse, defeated by the ricocheting shots of his own over-reaching ambition. This proud surgeon-general of the Continental Army died "in a small hovel attended only by a washerwoman". "The man who once filled half the world with his name has scarcely enough friends left to bury him", remarked Dr. Benjamin Rush.

Dr. Rush is the subject of Flexner's second sketch. He is known to most of us as a signor of the Declaration of Independence, and as the most dominant medical figure of his time. He has always been one of the most baffling of American physicians to estimate properly. The author takes us behind the scenes into the personal life of Rush and offers as additional material for a proper interpretation of his character episodes in his matrimonial ventures, guesses at his part in the Conway Cabal, and a generous assortment of instances of personal hatred sufficient to reduce the statue of this great man to the proportions of the ordinary mortal.

Ephraim McDowell, "a backwoods Galahad", is the subject of his third sketch. Virginians are naturally proud of the achievements of McDowell and take it as a personal tribute when he is hailed as the father of oöphorectomy, because he was born in Rockbridge County, Virginia, lived there until twelve years of age, returned there to study medicine under Alexander Humphries and finally performed

his now historic operation upon a Virginia woman, Mrs. Thomas Crawford. The description of the circumstances of this operation is one of the most effective in the book. It is to be regretted that Mr. Flexner's attention was not called to the fact that Jessee Bennett, another Virginia backwoods surgeon in the Shenandoah Valley, performed the first Caesarean section and the first oöphorectomy in this country in 1794, fifteen years before McDowell's work and thirty-three years before John Richmond's. Had he known this he would have avoided one of the few serious errors of his book.

A genius on the Ohio, Daniel Drake, is the next figure to which we are introduced. The story of how this illiterate child of the wilderness acquired knowledge, studied medicine and became the leading figure of the West is full of human interest. The author makes plain that although Drake was the "first person to be vaccinated beyond the Alleghanies", "received the first medical degree given in the West", "and organized the first public hospital in Cincinnati", he was nevertheless of a most cantankerous and jealous disposition, a fact which partially explains why he occupied professorships in more medical schools than any other one American physician before or since. Drake himself once said "medical schools have consumed me".

In sketching the life, character and accomplishments of William Beaumont, Flexner has attempted something that has been done many times before. In this instance also the author seems determined to emphasize the disagreeable weaknesses and shortcomings of his protagonist. Perhaps he could have told us more of what Beaumont actually accomplished and less about his dislike for St. Martin and his failure to pursue his experiments upon a broader and even more revealing basis. As in the case of most of his other sketches he leaves us with an impression of his hero which is far from pleasing and makes one a bit suspicious that he has gone out of his way to play the part of a debunking biographical writer.

The volume closes with an account of the discovery of anesthesia, telling the story of Crawford W. Long, Horace Wells, Charles T. Jackson and William T. G. Morton, and the part they severally played in a discovery that is without doubt one of the most important in medical science. Southerners will be inclined to wish that, after presenting so clearly the evidence establishing Long's claims to priority of discovery, the author should not have been willing to accord him fully all the credit for this accomplishment. Long and Morton independently discovered the same thing. They both reported their results to local medical organizations, the only difference being that Long's observations antedated Morton's by four years. Moreover Long several years later reported his discovery in writing to the Georgia Medical Society. Morton never published anything descriptive of his discovery. He, however, enjoyed the advantages of greater notoriety consequent upon Yankee enterprise, as exhibited in the enthusiastic reception of his work by the Boston School of Medicine and the publicity they immediately gave it.

On the whole but few flaws mar Mr. Flexner's presentation of seven important medical biographies. If we are tempted to call *Doctors on Horseback, Doctors at Daggers' Point,* because every last one of these pioneer medical men fought so continually, we must remind ourselves that pioneer days in other professions were not marked by serenity, and, if that blanket excuse does not entirely reclothe the clay feet of the early doctors we have been so wont to deify, we shall just have to admit that Mr. Flexner knows what the public does not always remember, that the doctor is just a man after all.

Taking the Mystery Out of Medicine.

The mystery and magic of medicine which characterized the dark age of devils, drugs and doctors, is rapidly passing, but not fast enough for the medical profession of the West Coast. Here we are told that the chief ambition of the Division of Health and Sanitation of the 1939 Golden Gate International Exposition is to extract forever from the American scene the notion that anything but common sense and natural law governs disease processes and man's therapeutic approach to them. Those of us who will take the trouble to cross the continent to witness the wonders of this record-breaking exposition may expect to see the cherished beliefs of centuries exploded before our wondering eyes. As never before, the public is to be taken behind the scenes. How simple it will be when the man on the street realizes just how this machine of ours is constituted and runs, how plain are the reasons why it runs badly, runs amuck, or refuses to run at all,

XUM

and what a simple mechanic job it is to repair, rebuild and protect from injury. All of this is to be made plain two years hence on the world's largest man-made island in the balmy bay of San Francisco.

Sulfanilamide on Trial.

This new agent of chemotherapy is now in the hands of the general practitioner. With him rather than with the experimental laboratory rests the decision as to the extent of its future clinical usefulness. All of the indications for sulfanilamide are at this time not entirely clear. Among the cocci it seems to carry a high degree of specificity for the beta or hemolytic type of streptococcus. For other streptococci it appears to be less effective, failing altogether in cases of urinary infection of streptococcal origin. Sulfanilamide is without influence upon staphylococci. In pneumococcal infections there are conflicting reports. In infections caused by the gonococcus it is said to be curative in a considerable percentage of cases. In meningococcal meningitis some surprising results have been reported.

The toxic manifestations of this powerful therapeutic agent have assumed increasing importance with wider clinical experience. The sudden elevations of temperature accompanied by leucocytosis which come on occasionally after a week or more of medication with sulfanilamide have occasioned considerable confusion, but due to the rapid excretion of the drug these may speedily be eliminated by forcing fluids and withholding the medicine. Severe anemia, skin eruptions, personality changes, cyanosis, dizziness, lassitude, dyspnoea—any one of these complications may intervene and in proportion to their severity dictate a modification or an abandonment of the treatment.

The recent newspaper publicity given a number of sulfanilamide deaths justifies continued caution in this type of therapy. It appears to be uncertain whether these deaths were due to the addition of diethylene glycol itself or to increased rate of absorbability resulting from the combination of the two drugs in an elixir.

Medical Examiners for Virginia.

The honorable office of coroner, formerly held by none but "lawful and discreet knights" was long identified with, and served exclusively, the English crown. With wider functions it was transported to this country and at least two coroners were appointed annually in each parish by the governor. Early Virginia coroners were not physicians. Among them were such distinguished laymen as William Randolph, William Byrd and Richard Cocke. Besides being required "to inquire, upon the body of . . . there lying dead, when, how and by what means he came to his death", the coroner was occasionally requested to return an account of all waifs, strays and deodands, and occasionally to act as an administrator of the deceased's estate. Progress came slowly in Virginia in the matter of coroners, and not until 1910 was it necessary for a coroner to be a physician.

In the meantime the coroner system which had been brought bodily to this country had been found faulty in several states. Seventy years ago Massachusetts abolished this system, substituting in its stead the medical examiner. Twenty years ago New York followed suit. At present a law is before the Michigan State legislature which promises a still better system. When this law goes into effect Michigan will have a state medical examiner, trained in pathology and the investigation of sudden death, who will have at his disposal a central medico-legal laboratory. Not the least of his responsibilities will be the supervision of the work of county medical examiners. The state medical examiner is to be the appointee of the governor, the county medical examiners are to be the appointees of the County Boards of Supervisors, their appointment having first been approved by the State Medical Examiner. Medical examiners will be impowered to examine the bodies of all who have died from abortion, in jail or without medical attendance, within thirty-six hours of their death, and, on written order from the prosecuting attorney or attorney general, the body of any one whose death occurred under suspicious circumstances. The system of coroner's juries will be abolished.

For a long time there have been murmurings in Virginia which lead us to believe that the effete system of the coroner should be abolished here and that a modern forward-looking Commonwealth like Virginia should substitute for its present cumbersome political and inefficient methods the approved system of medical examiners.

Department of Clinical and Medical Education of the Medical Society of Virginia

Recent Postgraduate Courses.

Since July 1936, eleven circuits have been organized for the postgraduate course in Obstetrics and Gynecology. The doctors of fifty-two counties have thus been reached. Over 180 meetings have been held with a total attendance of approximately 1,000. On these circuits something over 400 different doctors have been reached for lectures and consultations. Over 95 per cent of the doctors reporting declare that the course has been worth the time and money spent. During the coming year Dr. L. L. Shamburger will continue to serve as instructor in these courses.

During the period from September 12 to October 22, Dr. Shamburger has conducted a course in the counties of Pulaski, Montgomery, and Giles, to which doctors from Floyd and Bland were invited to attend. Meetings were held in the cities of Pulaski, Christiansburg, Blacksburg, and Pearisburg. The interest and attendance in these places have been especially good. The following doctors have attended one or more of the meetings:

PULASKI	CHRISTIANSBURG	BLACKSBURG	PEARISBURG
Dr. Hugh P. Brown	Dr. S. J. Beeken	Dr. F. B. Huffman	Dr. E. S. Carr
Dr. W. W. Cummings	Dr. S. D. Carey	Dr. F. K. Lucas	Dr. W. C. Caudill
Dr. D. S. Divers	Dr. Thos. H. Clarke	Dr. C. F. Manges	Dr. W. H. Hale
Dr. H. R. Farley	Dr. R. M. DeHart	Dr. D. S. Phlegar	Dr. H. G. Johnston
Dr. C. W. Hickam	Dr. H. D. Fitzpatrick	Dr. Elizabeth Saunders	Dr. Luther B. Lowe
Dr. H. M. Kelso	Dr. R. H. Grubbs		Dr. Jas. W. Miller
Dr. W. I. Owens	Dr. J. M. Harman		Dr. M. C. Newton
Dr. R. F. Thornhill	Dr. W. K. Lloyd		Dr. S. A. Tuck
Dr. R. H. Woolling	Dr. S. H. Nixon		
	Dr. J. C. Rutrough		
	Dr. A. M. Showalter		

In addition there have been a number of nurses in attendance.

Present and Future Courses.

The twelfth circuit is now being held in Roanoke, Franklin, Botetourt, Craig, and Patrick counties, having started the week of October 24. Following this circuit Dr. Shamburger will be joined by Dr. Robert Hightower for a combined course in Obstetrics, Gynecology and Pediatrics to be offered on the Eastern Shore. As has been announced Dr. Hightower was recently appointed instructor in Pediatrics and will arrive in Virginia on December 1 from Harvard University Medical School where he has been engaged in similar work.

Early in the new year arrangements will be made to offer a few short postgraduate courses in Internal Medicine. The December issue of the VIRGINIA MEDICAL MONTHLY will contain an outline of the plan under which these courses may be offered in the various localities in the state. In the meantime Local Societies wishing to arrange for courses in Internal Medicine, Obstetrics, Pediatrics, or a combination course, should address George B. Zehmer, Executive Secretary, Box 1487, University, Virginia.

Proceedings of Societies

The Orange County Medical Society

Held its monthly meeting for October in the office of Dr. Lewis Holladay in Orange, at which time plans were discussed for creating interest in the society and increasing membership, so that the coming year promises to be a helpful one. The election of officers was held and the following named: President, Dr. J. P. Hankins of Orange; vice-president, Dr. E. B. Dovell of Unionville; and secretary, Dr. G. R. Elliott (re-elected) of Orange.

XUM

The Danville-Pittsylvania Academy of Medicine,

At its September meeting, elected to membership Dr. Girard V. Thompson and Dr. B. R. Allen, both of Chatham, Va. At this meeting held in Danville, Dr. F. Bayard Carter, professor of obstetrics and gynecology at Duke University School of Medicine, spoke on "Toxemias of Pregnancy," and Dr. Wilburt C. Davison, dean and professor of pediatrics at Duke, spoke on "Sulfanilamide Therapy."

The Pittsylvania County division of the Academy, at its meeting on September 23rd, elected delegate and alternate to the State Society meeting, so that the county as well as the city was represented for the first time. Dr. J. C. Anderson and Dr. C. D. Bennett, both of Chatham, are president and secretary, respectively, of the county section, with Dr. P. W. Miles and Dr. S. C. Hall of Danville, as president and secretary of the joint organization.

The Northampton County Medical Society

Held its regular quarterly meeting on October 6th, at which time Dr. Joseph Edward Gladstone of Exmore was elected to membership and Dr. James N. Dudley, director of the Northampton County Health Department since July 1st, to honorary membership. Dr. W. Carey Henderson presented two case reports of the treatment of bullet wounds of the abdomen, and Dr. Dudley read a paper on "The Duties and Responsibilities of the Health Department."

The Lynchburg Academy of Medicine

Met in regular session in the Elk's Club on October 4th, with the President Dr. John Wyatt Davis, Sr., of Lynchburg, presiding.

Dr. J. R. Gorman notified the Academy of his inability to attending the State meeting in Roanoke as a delegate, and Dr. S. E. Oglesby, alternate delegate, was appointed in his place.

Dr. Herbert Rudolph Hartwell of Bedford, Va., was elected to membership. The business session was followed by an interesting paper by Dr. G. B. Arnold of the State Colony on "Insulin Treatment for Dementia Praecox" which was well received and discussed by Dr. H. C. Brownley. A one-reel motion picture from Davis and Geck, Inc., on "Phrenicectomy and Phrenic Crushing" was presented by Dr. W. F. Thornton.

The secretary of the Academy is Dr. C. E. Keefer of Lynchburg.

The Clinch Valley Medical Society

Held its regular meeting on September 25th, at Norton, Va., under the presidency of Dr. S. H. Rivers, of Calvin. The meeting was well attended and the following program presented: Silicosis by Dr. George B. Lawson; Fracture of the Forearm by Dr. Roy M. Hoover; Roentgen Ray Treatment of Malignancies and Infections by Dr. Charles H. Peterson; Carcinoma of the Cervix by Dr. Alfred P. Jones; and Developing Child Health by Dr. A. L. Carson. All speakers are from Roanoke except Dr. Carson, who is with the State Department of Health in Richmond.

At the business meeting, officers were elected as follows: President, Dr. R. L. Phipps, Clintwood; vice-presidents, Drs. E. P. Cox, Norton, and V. W. Quillen, Nickelsville; and secretary-treasurer, Dr. C. B. Bowyer, Stonega (re-elected).

The spring meeting of the Society will be held in Norton.

News Notes

A Good Time Was Had By All.

Such seemed the sentiments of all who attended the sixty-eighth annual meeting of the Medical Society in Roanoke, October 12th, 13th and 14th, with members of the Roanoke Academy of Medicine as hosts. The attendance was excellent, five hundred and five doctors having registered, though it was found later that a few had failed to fill out cards. A large number of ladies and exhibitors increased the attendance considerably.

On Tuesday afternoon, the House of Delegates held a short session in order that members might attend the clinics by Dr. Frank H. Lahey of Boston, on "Thyroids" and by Dr. W. McK. Craig of Rochester, Minn., on "Surgical Treatment of Hypertension." These brought out a large attendance

which was duplicated that evening when the president, Dr. J. Morrison Hutcheson of Richmond, gave his address entitled "The Functions of the State Society." He was followed by Dr. Russell L. Cecil, former Virginian now of New York City, one of his guests, who spoke on "Pneumonia as a Public Health Problem."

There was some activity to fill every minute on Wednesday morning and afternoon, including medical and surgical sections in the morning, and the showing of the motion picture film, "The Birth of a Baby." This was sponsored by the Maternal Welfare Committee of the Society and was well attended as also were the two sections. That afternoon, Dr. Thomas Parran, surgeon general of the U. S. Public Health Service, invited guest, spoke to a crowded house on "The Part of the Practicing Physician in Syphilis Control." An innovation on Wednesday afternoon in the form of round-table discussions on a variety of subjects proved quite a success, every member being able to find something to his liking.

Another new feature of this meeting was a subscription dinner on Wednesday evening, with music and a floor show. This proved most popular and the local committee is to be congratulated upon the talent secured. The golfers were in the limelight on this occasion also, prizes being awarded to the winners of the tournament held on Tuesday morning—Dr. I. R. Wagner of Oteen, N. C., for low net score, Dr. R. H. DuBose of Roanoke, for low gross, and Dr. E. H. Luck of Roanoke for low puts.

The attendance held up well for the last session on Thursday morning which included a number of interesting papers.

Exhibits, scientific and technical, were well displayed and attracted favorable comment.

Minutes of the business sessions will appear in the December issue of the MONTHLY. It is of interest to note, however, that Dr. G. F. Simpson of Purcellville, succeeded to the presidency and Dr. Alex. F. Robertson, Jr., of Staunton was named president-elect. The vice-presidents are Dr. W. L. Powell of Roanoke, Dr. J. M. Shackelford of Martinsville, and Dr. F. O. Plunkett of Lynchburg. Dr. Walter B. Martin of Norfolk. and Dr. J. C. Flippin of the University of Virginia, were elected delegates to the American Medical Association for a term of two years, Dr. Wright Clarkson of Petersburg, continuing in office, and Dr. Carrington Williams of Richmond, and Dr. Julian L. Rawls of Norfolk, were named alternates with Dr. Roshier W. Miller of Richmond, holding over for another year. Councilors for the odd numbered districts had to be selected at this meeting and were named as follows: Dr. Griffin W. Holland of Eastville; Dr. Roshier W. Miller of Richmond; Dr. W. C. Akers of Stuart; Dr. C. O. Dearmont of White Post; and Dr. C. B. Bowyer of Stonega. Those in the even numbered districts remain in office for another year.

Invitations for the 1938 meeting were received from the Danville-Pittsylvania Academy of Medicine for Danville, and also from the Hotel Chamberlain at Old Point Comfort and the Cavalier Hotel at Virginia Beach. Being put to vote, it was decided to hold the next meeting in Danville.

The presence of the ladies added much to the spirit of the meeting personally and because of their loyalty and wish to cooperate in every way for the good of the organization. A report on the activities of the Woman's Auxiliary appears in their department in this issue of the MONTHLY.

The Virginia Roentgen Ray Society

Sponsored one of the round-table discussions at the Roanoke meeting of the State Society, following which they held a short business session and re-elected officers of the past year, as follows: President, Dr. Fred M. Hodges of Richmond; vice-president, Dr. J. T. McKinney of Roanoke; and secretary, Dr. Vincent W. Archer of the University of Virginia.

The Virginia Orthopedic Society

Held a formal meeting in Roanoke on October 13th, following the round-table discussion which was sponsored by this society. Dr. C. E. Keefer of Lynchburg, and Dr. George A. Duncan of Norfolk, were elected to membership. Officers for the coming year are: President, Dr. Foy Vann of Norfolk, and secretary, Dr. Bernard H. Kyle of Lynchburg.

The Virginia Pediatric Society

Held a luncheon meeting in Roanoke at the time of the State Society meeting and named the following officers for the coming year: President, Dr. W. Ambrose McGee of Richmond; vice-president, Dr. T. D. Walker of Newport News; and secretary, Dr. John M. Bishop of Roanoke. Drs. C. E. Conrad and J. B. McKee of this Society con-

XUM

ducted a round-table discussion later in the afternoon. The members voted to hold their clinical meeting in the Spring of 1938—probably the latter part of April or early in May.

The Virginia Society of Obstetricians and Gynecologists

Had a get-together meeting in Roanoke on Wednesday of the State Society meeting dates. Dr. F. O. Plunkett of Lynchburg, was elected president for the coming year; Dr. C. J. Andrews of Norfolk, vice-president, and Dr. E. S. Groseclose of Lynchburg, was re-elected secretary.

Drs. M. P. Rucker and A. M. Groseclose, members of this organization, acted as leaders for one of the round-table discussions of the State meeting.

The Virginia Urological Society

Held its annual luncheon meeting in Roanoke at the Shenandoah Club on October 13th, second day of the meeting of the State Society. At this time the following officers were elected for the year 1937-38: President, Dr. W. W. S. Butler, Roanoke; vice-president, Dr. Lawrence T. Price, Richmond; and secretary-treasurer, Dr. Linwood D. Keyser (re-elected), Roanoke. Later in the afternoon, as part of the program of the Medical Society of Virginia, the Urological Society sponsored a round-table discussion on "The Modern Treatment of Non-Venereal Urinary Tract Infections", with Dr. A. I. Dodson of Richmond and Dr. Keyser of Roanoke as leaders.

The Virginia Section of the American College of Physicians

Selected the time of the State meeting as the occasion for a dinner meeting at the Shenandoah Club, under the presidency of Dr. Walter B. Martin of Norfolk. Dr. J. W. Preston and Dr. George B. Lawson, both of Roanoke, were named as president and secretary, respectively.

Southern Medical Association.

The thirty-first annual meeting of the Association is to be in New Orleans, La., November 30th, December 1st, 2nd and 3rd and, as usual, will hold much interest for every one who attends. There are a large number of sections and scientific and technical exhibits of a high order. As in the past, several affiliated medical organizations will hold sessions during the time of this meeting also. All members of state and county medical societies in the South are cordially invited to attend. Dr. Frank K. Boland of Atlanta, Ga., is this year's president.

Further details about the meeting may be obtained from the Society's headquarters in Empire Building, Birmingham, Ala.

The Seaboard Medical Association of Virginia and North Carolina

Will meet at the Cavalier Hotel, Virginia Beach, December 7th, 8th and 9th, under the presidency of Dr. P. St. L. Moncure of Norfolk, Va. A fine program is in the making and all doctors and their families are invited. The hotel is offering special rates for those attending this meeting. For further information, write Dr. Clarence Porter Jones, secretary, Newport News, Va.

Married.

Dr. Potter A. Richards, Vinton, Va., and Miss Margaret Frances Morrison, of Rockbridge County, Va., September 18th.

Dr. Adlai Stephenson Lilly, Richmond, Va., and Mrs. Sarah Bugg Gholson of Henderson, N. C., October 23rd.

Dr. Charles Louis Gilbert, class of '32, University of Virginia, Department of Medicine, now of New York City, and Miss Minnie Fox Hopkins, also of New York, October 23rd.

The South Piedmont Medical Society

Will hold its semi-annual meeting in Lynchburg, Va., Tuesday, November 16th. In addition to the volunteer papers, there will be a symposium on Diseases of the Respiratory Tract, divided as follows:

Respiratory Infections of the Lung, by Dr. E. B. Robertson, Danville; Respiratory Diseases of the Nose and Throat, by Dr. James Morrison, Lynchburg; Surgical Diseases of the Lung, by Dr. R. H. Fuller of South Boston.

These meetings are always interesting and a good attendance is expected. Dr. A. P. Bohannon of Virgilina is president and Dr. J. A. Owen of Turbeville, secretary.

Added to Staff of City Coroners.

Dr. George Zur Williams, assistant professor of pathology at the Medical College of Virginia, has just been added to the staff of city coroners of Richmond, Va., and assigned to duty on the southside, to fill the vacancy caused by the death of Dr. S. J. Baker. Dr. Williams was born in Korea, where his

parents were stationed as missionaries, and graduated in medicine from the University of Colorado. He served as a city coroner of Denver for a time before coming to Richmond. Richmond's other city coroners are Drs. J. Hamilton Scherer and Dr. Paul Kimmelstiel, also connected with the Medical College of Virginia.

State Health Department Personnel Notes.

Dr. Sheldon D. Carey, health officer of Montgomery County, resigned September 30th, to enter private practice, and is now located at Floyd, Va.

Dr. G. R. Carpenter has been appointed health officer of the Washington-Bristol Health District.

Dr. C. L. Riley has been appointed health officer of the Peninsula Health District.

Dr. V. A. Turner has been named health officer of the Buchanan-Russell-Tazewell Health District to succeed Dr. Charles L. Savage who is one of the health officers who has left to take a course at the Johns Hopkins School of Hygiene and Public Health.

Lee County Health Department started operating as a single unit on October 1, 1937. Dickenson and Wise Counties, with which Lee County has been associated since the joint health department was organized in January, 1935, will continue as a district with Dr. J. R. Massie as health officer.

Virginia Doctor Receives Honor.

The Fifth International Congress on Radiology, representing thirty-nine countries, was held in Chicago, recently, at which time there were a number of exhibits from all parts of the world. Dr. Fred M. Hodges of Richmond, Va., was among the exhibitors and received a certificate of merit for his work.

Dr. Clarence Porter Jones, Jr.,

Class of '34, Medical College of Virginia, has located in Newport News, Va., at 3117 West Avenue, and is engaged in the general practice of medicine. After graduation, Dr. Jones spent two years in hospitals on the Pacific Coast and, on his return to Virginia, practiced for sixteen months at Craigsville, Va.

Dr. Paul C. Colonna,

Former Virginian who has been practicing in New York City for some years, has been appointed professor of orthopedic surgery and director of orthopedics in the Crippled Children's Hospital at the University of Oklahoma School of Medicine, Oklahoma City, and entered upon his duties there on November 1st. This is a 200-bed hospital and cares for most of the orthopedic surgery throughout Oklahoma. Dr. Colonna has been specializing in this work and is well fitted for his new position.

Dr. Meyer Cohen,

An alumnus of the Medical College of Virginia, recently located at Yorktown, Va., is taking a postgraduate course in radiology at the University of Pennsylvania Graduate School of Medicine.

Dr. Robert J. Payne,

Who has practiced in Fredericksburg, Va., since 1908, has moved to his farm "Meadow Brook" at Stafford, Va.

The Southern Tuberculosis Conference

Met jointly with the Southern Sanatorium Association in Richmond, September 29th through October 1st, under the presidencies of Dr. Edward J. Murray, Lexington, Ky., of the Conference, and Dr. John Donnelly, of Charlotte, N. C., of the Association. There were about five hundred delegates present. Clinics and discussions were held by prominent doctors and laymen, the conference ending with a trip to Williamsburg, Yorktown and Jamestown.

Dr. Paul H. Ringer, Asheville, N. C., was elected president of the Southern Tuberculosis Conference, with Mrs. May McC. Pynchon, of Jacksonville, Fla., as vice-president, and J. P. Kranz, Nashville, Tenn., re-elected secretary-treasurer.

The Southern Sanatorium Association elected Dr. J. D. Riley, of Booneville, Ark., as president; Dr. J. B. Nicholls, Catawba Sanatorium, Va., vice-president; and Dr. Lucian Todd, Augusta, Ga., secretary.

Next year's conferences will be held in Louisville, Ky., and in 1939 they will be in Charleston, S. C.

The University of Virginia, Department of Medicine,

Will hold its Twentieth Post-Graduate Clinic at the University Hospital on November 5th. Included among the speakers will be Dr. Hugh H. Young from Johns Hopkins University. There will also be a report on the drug Sulfanilamide. The program will begin at 9:30 A. M. and continue through-

XUM

out the day. Members of the profession are cordially invited to attend this program.

The Norfolk and Western Railway Surgeons' Association,

At its meeting held in New York, September 29th and 30th, elected Dr. C. C. Coleman of Richmond as president, and re-elected Dr. T. D. Armistead of Roanoke as secretary-treasurer. Dr. Henry D. Gilmer of Hagerstown, Md., was elected first vice-president.

Dr. W. R. Whitman, Roanoke, Va., chief surgeon of the Railway, was presented with a silver service by his colleagues.

Dr. T. Allen Kirk,

Roanoke, Va., was elected president of the American Rose Society at its meeting in that city on October 7th and 8th.

Dr. E. W. Buckingham,

Newport News, Va., has been named as public health surgeon of that city to succeed the late Dr. Samuel Downing.

Dr. Horton R. Casparis,

Professor of pediatrics at Vanderbilt University School of Medicine, Nashville, Tenn., was the guest speaker before the Norfolk County Medical Society on September 28th, his subject being "Medical Aspects of Child Training."

Ex-Interns' Association of St. Elizabeth's Hospital.

The fourteenth annual meeting of this Association was held in Richmond, Va., on October 5th, with Dr. W. K. Dix of Richmond, president, presiding. There were seventeen members in attendance. In the morning, operations and clinics were held at the hospital, and, in the afternoon, papers were presented by Drs. W. K. Dix, Richmond; E. L. Caudill, Elizabethton, Tenn.; Paul McBee, Bakersville, N. C.; J. H. Farrow, New York City; and H. H. Harris, Anderson, S. C. The members, guests, and their wives were entertained at supper by Dr. and Mrs. J. Shelton Horsley, at their home, "Greystone."

The following officers were elected: President, Dr. J. H. Farrow, New York City; vice-president, Dr. J. Meriwether Hurt, Blackstone; and secretary-treasurer, Dr. John S. Horsley, Jr. (re-elected), Richmond.

The Jefferson Medical College.

The 113th annual session was inaugurated September 20, 1937, with Mr. Robert P. Hooper, president of the Board of Trustees, presiding. The introductory lecture was delivered by George Russell Bancroft, Ph. D., D. Sc., professor of physiological chemistry and toxicology, on "Some Goals in Medical Study."

Dr. Ross V. Patterson, the dean of the college, welcomed the 503 members of the student body. Of this number, 138 are new students, 130 admissions to the first-year class.

The members of the first-year class were prepared for medical study in sixty-three different institutions. All of them have pursued and completed four years of preliminary and preparatory study and graduated from these institutions before being admitted to the medical course.

Geographically, twenty-one states, insular possessions, and foreign countries are represented, as follows: Pennsylvania, New Jersey, Rhode Island, Massachusetts, North Carolina, Ohio, West Virginia, Indiana, Maine, Maryland, Missouri, New York, Delaware, Georgia, Kansas, Michigan, South Carolina, Hawaii, Puerto Rico, Iran, Korea.

Dr. Sam Silver,

Class of '34, Medical College of Virginia, has opened offices in Fishburne Building, Waynesboro, Va., for the general practice of medicine.

Dr. Linwood D. Keyser,

Roanoke, Va., will deliver an address on November 9th, before the Post-Graduate Fortnight meeting on genito-urinary diseases, which is being presented under the auspices of the New York Academy of Medicine. The subject of his address will be "Calculous Disease in the Urinary Tract: The Formation of Stone".

News Notes from Duke University School of Medicine.

The following new members were added recently to the faculty of the School of Medicine: Dr. Barnes Woodhall, Assistant Professor of Neuro-Surgery, Dr. Lenox D. Baker, Instructor in Surgery, and Dr. Ross C. MacCardle, Instructor in Anatomy.

On September 30th, the School of Medicine commenced its autumn quarter with a total of 245 students enrolled, and on October 4th, the School of

Nursing, with a total of eighty-four students enrolled.

Dr. Alfred R. Shands, Jr., Associate Professor of Surgery, in charge of Orthopedics, has been appointed Medical Director of The Nemours Foundation for the Care and Treatment of Crippled Children.

Postgraduate Symposium at Duke University.

A symposium on the Diseases of Women and Children, to which all the members of the medical profession are invited, will be held at Duke University Thursday, Friday and Saturday, November 11, 12 and 13, 1937. The following speakers will participate in the program: Dr. C. A. Aldrich, Associate Professor of Pediatrics, Northwestern University Medical School, Dr. Horton Casparis, Professor of Pediatrics, Vanderbilt University Medical School, Dr. Willard Richardson Cooke, Professor of Obstetrics and Gynecology, University of Texas Medical School, Dr. Julius H. Hess, Professor of Pediatrics, University of Illinois Medical School, Dr. Howard Francis Kane, Professor of Obstetrics and Gynecology, George Washington University Medical School, Dr. Foster Standish Kellogg, Harvard Medical School, Dr. George W. Kosmak, Editor, *American Journal of Obstetrics and Gynecology*, Dr. Esther L. Richards, Associate Professor of Psychiatry, The Johns Hopkins University School of Medicine, and Dr. Charles Hendee Smith, Professor of Pediatrics, New York University Medical School. Acceptances of several others are pending.

The American Board of Obstetrics and Gynecology

Will hold its next examinations (written and review of case histories) for Group B candidates in various cities of the United States and Canada on Saturday, November 6, 1937, and Saturday, February 5, 1938. Application for admission to these examinations must be filed on an official application form in the office of the Secretary at least sixty days prior to these dates.

The general oral, clinical and pathological examinations for all candidates (Groups A and B) will be conducted by the entire Board, meeting in San Francisco, Calif., on June 13 and 14, 1938, immediately prior to the meeting of the American Medical Association.

Application for admission to Group A examinations must be on file in the Secretary's Office before April 1, 1938.

For further information and application blanks address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh (6), Pa.

The Southern Branch of the American Public Health Association

Will hold its annual meeting concurrently with the annual conference of the Southern Medical Association in New Orleans on November 31st and December 1st. Those interested in health work will find this meeting well worthwhile.

Spring Graduate Course at Gill Memorial Hospital.

The Gill Memorial Eye, Ear and Throat Hospital, Roanoke, Va., will hold its twelfth Annual Spring Graduate Course April 4-9, 1938, and a number of doctors of national reputation will appear on the program. The class will be limited strictly to fifty.

Dr. H. Cantor,

Petersburg, Va., was among those who attended the Clinical Congress of the American College of Surgeons in Chicago.

Former Interns of Medical College of Virginia Honor Dr. Call.

A portrait of the late Dr. Manfred Call has been given the Medical College of Virginia by former interns of the hospital division, with the formal presentation to take place in the spring when the Ex-Interns' Association meets. Dr. Call was dean of the School for seven years and served as professor of clinical medicine for about thirty years.

Dr. E. K. Disney,

Recently at McClure, Va., announces that he is now located at Whitman, W. Va.

The Pan American Medical Association

Is progressing nicely with plans for its seventh cruise congress to be held in the form of a cruise to Cuba and the West Indies, from January 15 to 31, 1938. Dr. Joseph Jordan Eller, director general, 745 Fifth Avenue, New York City, will be glad to furnish information as to the itinerary. A number of eminent doctors from all parts of the United States will give scientific addresses in Havana on

XUM

various medical and surgical subjects. Doctors who have been on previous cruises are enthusiastic in their praise of them.

Dr. Malcolm H. Harris

Has been named one of the directors of the West Point, Va., Kiwanis Club for the coming year.

Dr. William S. Francis, Jr.,

Recently located at Marion, Va., has retired from the general practice of medicine and has accepted a commission with the Medical Corps of the U. S. Navy, with the rank of Lieutenant (j. g.).

Dr. Eldridge Cook Simmons,

Class of '31, University of Virginia, Department of Medicine, has located in Roanoke, Va., where he is associated with Dr. Linwood D. Keyser in the practice of diagnosis and surgery. Dr. Simmons was formerly resident house surgeon of the New York Post-Graduate Hospital and was also with the Morristown Memorial Hospital at Morristown, N. J.

The American Association of Obstetricians, Gynecologists and Abdominal Surgeons

Held its semi-centennial meeting at the Homestead Hotel, Hot Springs, Va., September 20th-22nd, under the presidency of Dr. James Kennedy of Philadelphia. At this time, Dr. Paul Titus of Pittsburgh, succeeded to the presidency, Dr. James E. King of Buffalo, N. Y., was named president-elect, and Dr. James R. Bloss of Huntington, W. Va., was re-elected secretary. It was decided to hold the winter clinical meeting in Buffalo at sometime in March, 1938.

Books Available to Readers.

The following are some of the newer additions to the Library of the Medical College of Virginia, Richmond, and may be had upon request of our readers, the only charge being return postage:

Harvard School of Public Health.—The environment and its effect upon man.
Hauduroy & Ehringer.—Dictionnaire des bacterias pathogenes pour l'homme, les animaux et les plantes.
Heilbrun, L. V.—New outline of general physiology.
Hickman, C. P.—Physiological hygiene.
Jenkins, H. P.—Terminology of operations of the University of Chicago Clinics.
Johnson, T. C., Jr.—Scientific interests in the Old South.
Joslin, E. P.—Treatment of diabetes mellitus.
Keun, O.—A foreigner looks at the TVA.
Kronfeld, R.—Dental histology and comparative dental anatomy.
Lang, O. W.—Thermal processes for canned marine products.
Levinson & Mac Fate.—Clinical laboratory diagnosis.
Lowman, C. L.—The technique of underwater gymnastics.
Lutz, E.—A Richmond album.
McBride, W. C.—Juvenile dentistry.
Mackinney, L. C.—Early medieval medicine.
May & Leonard.—Competition and cooperation.
Monroe, M.—Children who cannot read.
Needham, J.—Order and life.

For Sale—

Westinghouse-Squire cystoscopic table, complete with X-ray table stand, flat Bucky diaphragm and headrest. Like new. Latest model. Address "W. S. C.", care this journal, 1200 East Clay Street, Richmond, Va.—(*Adv.*)

Obituary Record

Dr. Cicero Frank Griffin,

Suffolk, Va., died of coronary thrombosis on August 4th. He was sixty-eight years of age and received his medical degree from the College of Physicians and Surgeons, Baltimore, in 1893. Dr. Griffin practiced in North Carolina, his native State, for sometime before locating in Suffolk where he has been in active practice for nineteen years. He had been a member of the Medical Society of Virginia for a number of years. His wife and five children survive him.

Dr. Claude Jacob Bradshaw,

Carrsville, Va., died July 27th in a Suffolk hospital, at the age of sixty-eight. He was a graduate of the Medical College of Virginia in 1892. Dr. Bradshaw was a member of the Medical Society of Virginia.

Dr. Nathan Winslow,

Baltimore, Md., died October 8th in a Richmond, Va., hospital of injuries received in an automobile accident several days before. He was returning from North Carolina when his car left the highway and overturned. Dr. Winslow graduated in medicine from the University of Maryland, Baltimore, in 1901, and at the time of his death was professor of clinical surgery in his alma mater. During the World War, Dr. Winslow was stationed at Newport News as medical officer.